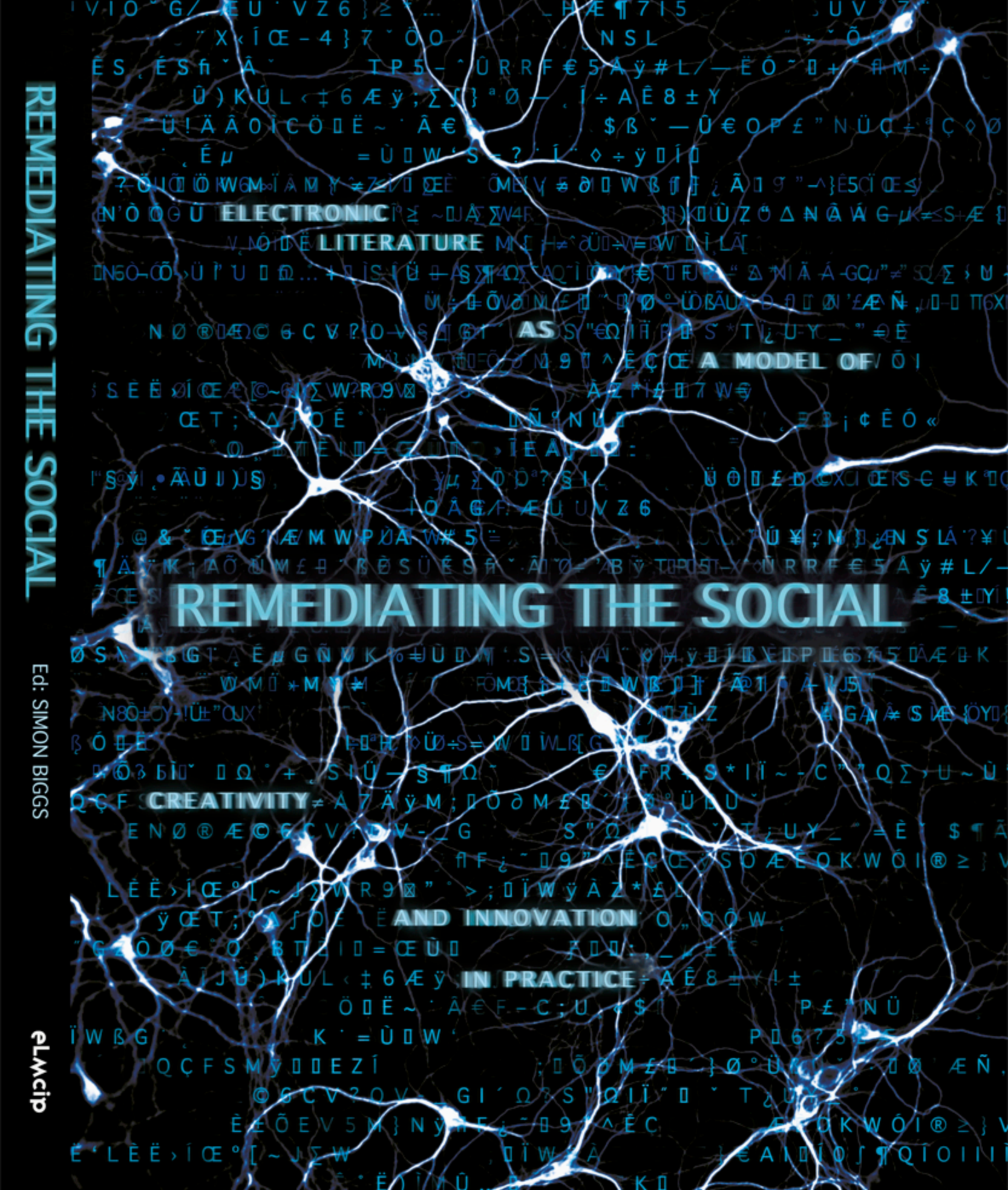
Remediating the Social


REMEDIATING THE SOCIAL
ELECTRONIC
LITERATURE
AS
A MODEL OF
CREATIVITY
AND INNOVATION
IN PRACTICE
REMEDIATING THE SOCIAL
Ed: SIMON BIGGS
eLmcip

Remediating the Social

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BOOTSTRAPPING ELECTRONIC-LITERATURE: AN INTRODUCTION TO THE ELMCIP PROJECT

Scott Rettberg

Developing a Network-Based Creative Community: Electronic Literature as a Model of Creativity and Innovation in Practice (ELMCIP) is a three-year (June 2010-June 2013) collaborative research project funded by HERA, the Humanities in the European Research Area framework, sponsored by EU FP7 and the national research councils of the countries participating in the framework. The project has involved researchers from seven institutions in six European nations, who together have produced seven events including seminars, workshops and the Remediating the Social conference and exhibition, documented by this volume.

The ELMCIP project has responded specifically to the 'Humanities as a Source of Creativity and Innovation' theme, of the original call, in producing research that examines how 'the processes and conditions of human creativity will add new understandings of the value systems of the humanities and the practices and conditions of the creative, performing and visual arts, and a much better understanding of how these values and processes might contribute to cultural, social and economic innovation.' Aspects of the call for projects addressed by ELMCIP have included research into the relation between technological innovation and artistic creativity, examining models of practice for developing and supporting creativity, considering the relationship between artists and writers who produce creative work and the communities that study them, and in particular how creative communities are functioning differently in a globally networked, technologically mediated environment than previously.

As a starting point, we asserted that creativity is not best understood as a manifestation of genius or inspiration within any particular individual, but instead as the collective, performative practices of communities. Considering the work of anthropologist James Leach, we understand creativity as an activity of exchange that enables people and communities. In studying and working to further develop the international community of electronic literature, we have thus focused less on particular individual artists and individual works, and more on the conditions and environment in which creativity takes place.

ELMCIP has studied the electronic literature community as exemplary of contemporary network-based creative practices, but we have not feigned disinterested objectivity in the endeavor. Although the work has included an ethnographic study of three different networked creative communities, conducted by Penny Travlou, for the most part our work has been focused on developing and expanding upon the efforts of an existing creative community, developing research infrastructure as well as opportunities for scholars, creative writers, and artists to gather and exchange ideas and publish new work that has advanced the field, especially as it has manifested itself within the European research area.

Each partner has taken responsibility for specific aspects of ELMCIP. At the University of Bergen, we organised and hosted a seminar in 2010 which addressed the topic of creative communities in electronic literature, examining different models of how communities have formed around regional or linguistic affiliations, formal and informal organisations, genres, and technological platforms. This work is resulting in two special issues of the open-access online journal *Dichtung Digital*. The other main contribution of the Bergen team has been the development of the Electronic Literature Knowledge Base (http://elmcip.net/knowledgebase), an online database that documents works of electronic literature, critical writing, authors, organisations, publishers, events, teaching resources, and databases and archives of work in the field. The Knowledge Base not only expands access to these resources but also automatically creates cross-references between them, so that we, for example, record not only the abstract of a piece of critical writing, but also its references to given creative works. These cross-references enable better understanding of the connections between different objects and actors at play in the field.

Blekinge Institute of Technology organised a workshop on Electronic Literature Pedagogy which brought together a number of educators teaching electronic literature in different international university contexts including literature, design, and creative writing programs to exchange ideas on best practices and curricular models. Blekinge is also the editorial

leader of the ELMCIP anthology, a collection of European works of electronic literature in multiple languages and exemplary of diverse practices. This anthology also includes pedagogical materials. The University of Jyväskylä produced a seminar on Electronic Literature Publishing and produced a report on different publishing venues for electronic literature in Europe. The University of Ljubljana arranged a seminar focused on the connections between electronic literature and new media art in a more general sense, apt given the fact that work in this field is as likely to be exhibited in a gallery context as it is to be published by any conventional means. A symposium at University of Amsterdam focused on Digital Poetics, wherein scholars considered the relationship between traditional literary research methodologies and the strange artifacts and practices of digital writing. At University College Falmouth, a workshop focused on Electronic Literature as Performance, informing development of some works in the Remediating the Social programme of artist commissions. A special issue of the journal *Performance Research* will follow that gathering. At the University of Edinburgh, an ethnographic study of several e-lit communities has been produced, as well as the conference and exhibition Remediating the Social.

Although this conference is the last event of the ELMCIP project, the funded work will continue through June 2013. A second book, including the ethnographic study, the report on European publication venues, reflective reports from each of the PIs of the project on their specific research theme, and recommendations for policy makers emerging from our research will follow next year. The online database will also continue to be maintained and developed well beyond the duration of the project. Most importantly, ELMCIP has itself resulted in a creative research community that has greatly expanded the field within Europe. The connections between international researchers resulting from the ELMCIP project will continue into the future. All of the activity produced by ELMCIP has resulted in an energising momentum in the field of electronic literature. Two of the major international conferences in the field, the Electronic Literature Organization conference and the E-Poetry Festival are for example already planning European iterations in the near future. It is a great time for Electronic Literature in Europe.

REMEDIATING THE SOCIAL

Simon Biggs

The proposition of Remediating the Social is whether creativity might be considered a property emergent from a multi-modal social apparatus rather than, as is more commonly assumed, an attribute of individual or collective human agency. This proposition has been formulated within the context of an expanded apprehension of individual and collective ontology that considers selfhood, at least in part, as a socially contingent construct and, in this sense, both fascinatingly and idiosyncratically, a creation of the social space from which it emerges and is sustained within. In this context creativity is apprehended as a reflexive property of the inter-agency of social interactions, rather than as an activity concerned with the origination of novel things or a capability invested in an individual or group of individuals.

Remediating the Social seeks to explore this proposition through considering instances of practice that employ digital and networked systems, in their structure and function, and evidence these emergent characteristics in the processes involved in their making. Our focus is social media – not social media in the sense of media that are primarily concerned with enabling social interactions (e.g.: Facebook or Twitter, although these might be within the remit of this engagement) but media that are part of the apparatus we can identify as the social in action. The most fundamental medium that exhibits this property is language itself – and thus it is probably no accident that many of the artists encountered in this context often work with language and literary form. Another medium, which we will argue shares these properties in critically important ways, is the computer.

The artists and authors involved in Remediating the Social work with digital and networked systems. One way or another, they work with computers. Their practice engages people, individually and collectively, as mediated by (sometimes generated or emergent from within) machines. Such practice demands we ask, where is agency? This question is key to the work of many of these artists. Indeed, one would suspect that many of the artists and authors, whose work is documented and discussed here, choose to work with computers and networks because the issue of agency is key to their inquiry – they seek to question the inter-agency of author, reader and medium, often by problematising our apprehension of where the work originates. They ask us to consider how agency might be identified within constantly changing patterns of socially contingent inter-agency.

In this context we should remind ourselves of Terry Winograd's observation that 'the computer is a physical embodiment of the symbolic calculations envisaged by Hobbes and Leibniz. As such, it is really not a thinking machine, but a language machine' (Winograd 1991). Winograd's central argument is that the digital is of itself symbolic and thus language *per se*. He proposes that the computer is an evolution of writing and literacy, where language can be autonomic. Thus agency can be considered abrogated from the human and perceived as emergent from diverse origins. The computer can also be regarded as a central element of our contemporary social apparatus. Therefore, we can propose that just as the computer is more than a machine we can use to 'do' or 'make' language, so social media can be about more than the media we use to be social. If we accept that the social is linguistic, as will be proposed below, then we can also accept that computers are social, in the sense that Winograd argues they are linguistic.

Here we encounter an ontological problem related to issues concerning technology, revelation and agency, as addressed by, amongst others, Marshall McLuhan (sometimes considered, perhaps unfairly, to have misconstrued Heidegger's foundational work on agency and revelation in *The Question Concerning Technology* (Heidegger 1977)) and Robert K. Logan. Logan's work on the origin of language and culture as co-emergent phenomena with, or of, the (social) evolution of mind is relevant here.

> Syntactilized verbal language extended the effectiveness of the human brain and created the mind. Language is a tool and all tools, according to McLuhan (1964), are extensions of the body that allow us to use our bodies more efficiently. I believe, that language is a tool which extended the brain and made it more effective thus creating the human mind which I have termed the extended mind. I have expressed this idea in terms of the equation: mind = brain + language (Logan 2005).

Logan was inspired by the following passage from McLuhan:

> It is the extension of man in speech that enables the intellect to detach itself from the vastly wider reality. Without language, Bergson suggests, human intelligence would have remained totally involved in the objects of its attention. Language does for intelligence what the wheel does for the feet and the body. It enables them to move from thing to thing with the greatest ease and speed and ever less involvement. Language extends and amplifies man but it also divides his faculties. His collective consciousness or intuitive awareness is diminished by this technical extension of consciousness that is speech (McLuhan 1964).

Putting aside the rather reductive logic of McLuhan and Logan, if we can apprehend the mind as emergent from the social agency of language then our ontology, individually and collectively, can subsequently be interpreted as a function of whatever our (social) inter-agency is at any given time. As such, we are never fixed as individual beings but always in flux, always becoming something other. It is this process of contingent inter-agency which we understand, in the context of Remediating the Social, as the process of 'remediation'. It might be considered a generative bifurcating autonomic process, developing from state to state, as Bolter and Grusin argue is the case for media (Bolter & Grusin 2000). In this respect the system is indeterminate, although it is possible to make assumptions about what a likely eventuality will be given initial states of inter-agency. Such emergent systems can be considered within the framework of 'ergodic' theory, a branch of complexity theory.

It has been argued by Espen Aarseth (Aarseth 1997) that the 'ergodic principle' should underpin any definition of cybertext, a literary form that exists primarily in computers and networked systems but which, as Aarseth argues, is subsumed by a more general concept of non-linear textuality, as envisioned in ergodics. Ergodics is a term derived from the Greek for 'path', and in this context is intended to describe the multiplying bifurcations of the classic cybertext but also other literary forms, not necessarily mediated by computers but never intended to be read in a linear manner, such as dictionaries and encyclopaedia. The ergodic principle derives from work in physics, specifically thermodynamics and the statistical modelling of emergent behaviour in complex systems. This conceptual lineage suggests connections with another paradigm emergent from thermodynamics, cybernetics – a conceptual framework that is echoed, at least in part, in the term cybertext.

The role of emergence is evoked in ergodics, as it is in a related concept in cybernetics, 'autopoiesis'. This concept considers biological life itself as a pseudo-linguistic cybernetic process. Maturana and Varela describe the autopoietic as the organising principle of the autonomous living thing, almost literally a self-making, and consider the manner in which this process is conceived as linguistic in character, underpinning what Maturana and Varela term a 'biology of cognition' (Maturana & Varela 1991). They take this proposition explicitly into the linguistic and social domains when they write 'The central feature of human existence is its occurrence in a linguistic cognitive domain. This domain is constitutively social' (ibid). Taken together with Logan's arguments and the principles of ergodic theory, an ontology of the individual, within a model of social emergence, can be envisioned that places language as central in this process.

At the very outset of the ELMCIP project (Electronic Literature as a Model of Creativity and Innovation in Practice, of which Remediating the Social is part) we asked 'whether creativity might be regarded as a form of social interaction rather than an outcome. How might we understand creativity as interaction between people and things, as sets of discursive relations rather than outcomes?' (Biggs & Travlou 2011). In addressing this question we referred to the anthropological inquiries of James Leach, into how people might make one another. As we noted, Leach has observed 'the role of 'creativity' in the ways people generate new places in the landscape' and has argued that,

> ...in so doing, they also generate new people, who emerge from these places, and objects which facilitate or even participate in these creative processes. Making people and places involves relations to other people and to spirits and ancestors that embody, through song/design/dance complexes, the generative potential of land itself (Biggs & Leach 2004).

The ethnographic studies that Penny Travlou has undertaken as part of the ELMCIP project, described elsewhere in this volume, have followed and traced social connections within and between specific creative communities, describing bifurcating and rhizomic pathways and connections between them which, in many ways, resemble the ergodic

principles of the autopoietic; what Tim Ingold has described as the 'lines along which things continually come into being. Thus when I speak of the entanglement of things I mean this literally and precisely: not a network of connections but a meshwork of interwoven lines of growth and movement.' (Ingold 2008).

It is striking how the social and linguistic structures inherent in these processes appear to mirror one another and are evoked in the creative work undertaken within and driving the existence of these communities.

Not dissimilarly, Friedrich Block has conceived 'poiesis' as '...a communicative and social medium of the second order, where art is generating itself in all possible ways according to the autopoiesis of society. Thus, artistic poiesis is a model or simulation of the procedural construction of reality.'[1] (Block 1999). In this context, we are able to articulate what we mean by Remediating the Social: it is the recognition that the poetic and autopoietic are linked by more than their superficial linguistic resemblance and by their evocation of the principle of self-making, through their deep connection with the linguistic and the role of language in social formation. The poetic principle is considered here to be innately generative, concerning how language can generate numerous alternate interpretations, as further linguistic instances, through the processes of association undertaken when 'creatively' reading a text or, indeed, looking at a picture, watching a film or listening to music. The profusion of meaning inherent in the poetic can similarly evoke the autopoietic processes we can see in the processes of social formation and the relationships we all create with one another as we live our lives – or might we say, the lives that are created through relationships emergent in autopoietic social spaces?

[1]Translated from the German, in a personal email, by Friedrich Block, 2012.

In a post-convergent technological context the character of interpretation can be seen to shift profoundly, with consequent impact on power relations. This context might be understood as a form of expanded hermeneutics, what Foucault termed a dispositif...

> ...a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions – in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements. (Foucault 1980).

When our means of representation function across media, involving multiple senses and diverse epistemological frameworks, then our understanding of things becomes multi-perspectival and multimodal. Roberto Simanowski articulates this shift in both processes of representation and interpretation when he writes,

> In postmodern times, interpretation is no longer about control or truth. It is about solving the puzzle of meaning that a work of art represents. It is about suggesting, playing with ideas, reflecting and sharing thoughts and feelings triggered by interaction with the artwork. Hermeneutics can be considered 'a metatheory of the play of interpretations.' (Vattimo 1997). No single interpretation should be the end of this process, but there should be no end to interpretation (Simanowski 2011).

In a sense this is a restatement of intertextuality, in action and practice, but presented in the context of an apprehension of how convergence has emerged as the result of discrete digital systems not only permeating but becoming our representational and epistemological tools, echoing Winograd's proposition that the digital is a language machine. This can be considered a transformative process, remaking how we represent, understand, communicate and 'share' things, in short, transforming how we, and other agents, are creative and where creativity can come from. In turn, this has reshaped our society, dependent as it is, as so clearly argued by Leach, on such processes. This is, arguably, where the digital can be the most transformative, allowing us, as creative beings, to re-imagine what our relationships, our mediating systems and, ultimately, what we might be.

Remediating the Social thus seeks to trace this process of transformation through the work of artists and authors who explicitly engage media, representation and interpretation in ways that recognise both their multi-agent origins and the manner in which each of these elements of knowledge and experience are intrinsic to a social apparatus where it can be a self-defeating task to seek to discriminate between them as distinct processes. In short, these artists and authors understand that authors and readers, artists and viewers, makers and users, have a deeply problematic and intermingled relationship where

there are more of us participating in each instance of making/using than we might assume and where that 'us' is composed of, amongst others, non-human agents. In this respect a key interest of creative engagement with digital technology is the manner in which such relations can be rendered explicit.

June 2012, Edinburgh

Bibliography:

Aarseth, E. (1997) *Cybertext: Perspectives on Ergodic Literature*. Baltimore: John Hopkins University Press.

Biggs, S. & Leach, J. (2004) *Autopoiesis, Novelty, Meaning and Value*. London: Artwords.

Biggs, S. & Travlou, P. (2011) 'Distributed authorship and creative communities' in *Dichtung Digital* Nr. 41 (2012 ISSN 1617-6901), Basel: http://www.dichtung-digital.org/2012/41/biggs-travlou/biggs-travlou.htm [accessed 15.05.2012].

Block, F. W. (1999) *Beobachtung des 'ICH'*. Bielefeld: Aisthesis.

Bolter, J. & Grusin, R. (2000) *Remediation: Understanding New Media*. Cambridge MA: MIT Press.

Foucault, M. (1980) 'Confessions of the Flesh' in Gordon (ed.) *Power/Knowledge: Selected Interviews and Other Writings*. Hassocks, Sussex: Harvester Press.

Heidegger, M. (1977) *The Question Concerning Technology and other essays*. New York: Harper and Row.

Ingold, T. (2008) 'Bringing things to life: Creative entanglements in a world of materials', a paper presented at the *Material Worlds symposium*. Providence: Brown University, http://proteus.brown.edu/cogut-materialworlds/4080, [accessed February 26, 2010].

Logan, R. K. (2005) 'The Extended Mind Model of the Origin of Language and Culture' in Gonthier, N. van Bendegem, J. P. & Aerts, D. (eds.) *Evolutionary Epistemology, Language and Culture*. Dordrecht: Springer.

Maturana, H. & Varela, F. (1972) *Autopoiesis and Cognition: The Realization of the Living*, Dordrecht: D. Reidel Publishing.

McLuhan, M. (1964) *Understanding Media*, New York: McGraw Hill.

Simanowski, R. (2011) *Digital Art and Meaning: Reading Kinetic Poetry, Text Machines, Mapping Art, and Interactive Installations*. Minneapolis: University of Minnesota.

Vattimo, G. (1997) 'Beyond Interpretation: The Meaning of Hermeneutics' in *Postmodern Culture*. trans. by Webb, D. Stanford: Stanford University Press.

Winograd, T. (1991) Sheehan, J., & Sosna, M., eds., *The Boundaries of Humanity: Humans, Animals, Machines*, Berkeley: University of California Press.

PROGRAMMING FOR FUN, TOGETHER

Nick Montfort

Ever since computers have been programmed, people have programmed them together. From almost the first days of programming, people have also programmed them unofficially, for fun, to create literary and artistic works, games, and technically impressive feats that suggest new directions for computing.

In September 2010, at the first ELMCIP seminar in Bergen, I discussed the interactive fiction community, which includes programmer/authors as well as those focused mainly on programming; avid reviewers and critics; people who run contests, in-person events, and online community resources; players; and enthusiasts of other sorts. In this discussion that I have developed for the final ELMCIP conference in Edinburgh, my topic is in many ways broader, although in one respect it is more limited. Broader, because I am not restricting myself to the discussion of interactive fiction or even electronic literature – I am considering creative computing generally. Narrower, because I focus on one type of community participant and one way of engaging with creative computing – as a programmer.

I will present relevant scans, photos, and video to illustrate how programmers have worked together in the area of creative computing. I will also try to make my fourth point (below) by offering concrete examples of how anyone who is conversant with computers can begin programming. In this article, I provide a brief discussion of three types of creative programming practices.

Four Main Points

I have four main points to make about programming:

- Programming is a social as well as a cultural activity.
- Programming is a deep engagement with computation that can connect the power of the computer to creative purposes in ways that other practices cannot.
- Programming communities are related to computational platforms, longstanding art and media practices, and communities of practice beyond programming itself.
- Programming is not an activity restricted to professionals with years of training; some essentials of this activity can be undertaken (and have been undertaken) by ordinary computer users after a few hours.

These points are interrelated, so I will argue for them by looking at the specific ways that programming has been done at different points in the past. Not exactly a cohesive history, not an archaeology, not a fully traced genealogy, I offer instead simply a few glimpses of how programmers have worked over the years in different contexts. To be clear, I am really considering not how they have worked, but how they have played. That is, I am considering how programmers have engaged in creative computing.

Human Moments in Programming

There are many examples of social programming from the earliest days of general-purpose electronic computing, when women worked as 'coders' (as they were initially called), programming the ENIAC. Whether it is the development of a new Data General computer (Kidder 1981) or the early work to define and enable the Internet (Hafner & Lyon 1996), work with computation is clearly not isolated from society, and programming, however wizardly it may seem, is not an abstract and hermetic activity. As many writers have explained, social programming is not restricted to creative, unofficial uses of the computer. Teams work together on scientific projects, military applications, and business systems. It is the creative and unofficial type of computing, however, that seems to connect to the development of electronic literature most directly.

‘Recreational Computing’ and Early Games Programming at MIT

In 1958 an experimental computer with some of its memory removed was effectively donated (more precisely, loaned) to the Research Laboratory of Electronics at MIT. This was the Transistorized Experimental Computer Zero, called TX-0 (and pronounced ticks-oh). Many of the students who descended on it to become the first hackers knew each other from their work in another technical community, the Tech Model Railroad Club or TMRC (tee-merk), which had an elaborate model railroad layout that used an extensive system of relays.

The TX-0 was one of the first systems where programmers could interactively write programs for fun, engaging in ‘recreational computing.’ Game and proto-game programs were developed including a tic-tac-toe game and ‘Mouse in the Maze.’ The latter game -like program let the user employ the light pen to place the mouse and the cheese that was its goal; there was also a mode in which in the mouse consumed not cheese but martinis, becoming less and less able to navigate the maze as it did so.

In 1961, MIT’s Electrical Engineering Department received a new and more powerful computer, the first minicomputer, from Digital Equipment Corporation. This PDP-1 became the new focus of hacker attention. Pattern-generating programs and ‘Expensive Typewriter,’ possibly the first word processor, were developed on it. The most famous program written by hackers on the PDP-1 was surely *Spacewar* (Graetz 1981). It was first imagined by Steve ‘Slug’ Russell, Martin ‘Shag’ Graetz, and Wayne Wiitanen, who all lived on Hingham Street in Cambridge, MA, in a residence that came to be known as The Hingham Institute Space Warfare Study Group. The game was augmented by Dan Edwards and Peter Samson and achieved wide fame thanks to a write-up in *Rolling Stone* (Brand 1972).

More than a decade later, the play in the system at MIT was still allowing programmers to code for fun (Montfort 2003). Some of the results in the 1970s included *Maze*, which Greg Thompson, Dave Lebling, and others developed into a sophisticated multiplayer game in 1974. *Maze*, the progenitor of *Maze War* and the first first-person shooter, ran on the Imlac PDS-1. This platform was used mainly a terminal in the Dynamic Modelling Group. Lebling and three others developed the famous interactive fiction *Zork* starting in 1977. Those that developed Zork and went on to found the successful company Infocom had a few things in common besides the general affiliation with MIT. One was the Dynamic Modelling Group, but another was the Lecture Student Committee, an organisation at MIT that arranged screenings of films.

Programming on Home Computers

The ability to program a computer, to use its general power in customised ways, was a core selling point for many home computers of the late 1970s and early 1980s. Home computers were often positioned against videogame systems in advertisements. Implicitly, this comparison reminded the prospective buyer that a computer could be used to play video games; explicitly, it pointed out that computers could be used with business and educational software – and that they could be programmed to do much more. This point was driven home in the many Commodore TV ads that compared the VIC-20 to game systems – including one in which William Shatner says ‘unlike games, it has a real computer keyboard.’ (Commodore Computer Club 2010).

That computers were programmable, and that they specifically could be programmed in BASIC, were hardly afterthoughts in their development or marketing. A Commodore 64 advertisement that was aired in Australia in 1985 provides evidence that BASIC was a central selling point (Holmes3000 2006). After the television spot showed bikini-clad women descending a waterslide (‘♪ In a world of fun and fantasy . . . ♪’) and cut to a woman happily using a Commodore 64 in a retail store (‘♪ . . . and ever-changing views . . . ♪’), it cut once again: to a screen full of BASIC, and then to depict a boy programming in BASIC (‘♪ . . . and computer terminology . . . Commodore and you! ♪’). The commercial clearly signals that programming was an obvious, important, and fun use of a home computer.

An early print ad for the Apple II that ran in *Scientific American* among other publications boasted, ‘It’s the first personal computer with a fast version of BASIC – the English-like programming language – permanently built in. That means you can begin running your

Apple II the first evening, entering your own instructions and watching them work, even if you’ve had no previous computer experience.’ It was very easy for home computers users to type in or modify a BASIC program, and the fact that the manufacturers encouraged such behaviour in mass media advertising primed users to partake of programming once they’d purchased a machine.

It isn’t necessary to head to YouTube to find evidence that ordinary users were supposed to start programming in BASIC in the late 1970s and early 1980s. The standard user manuals that came with such computers included sections on BASIC or instructions on how to program in BASIC throughout. Programmers had opportunities to collaborate when they gathered in schools, during the meetings of user groups, and in retail stores (which often allowed children to spend time there programming computers).

The Demoscene

The constellation of creative practice known as the demoscene (Tasajärvi 2004, Carlsson 2009) is concentrated in Northern Europe. People in the demoscene (sceners) create various computational visual and musical works, almost always non-interactive. The ‘demo’ or shorter ‘intro’ is the prototypical production, and is a small file that executes to produce a music video, rendered in real time. Sceners gather to program together and show their work in parties, sometimes immense ones: Summer Assembly, for instance, takes place in Helsinki’s Hartwall Arena and draws thousands.

The demoscene began in the confluence of a computer game industry and the impulse to enforce legal restrictions on copying with technical ones. Certain microcomputer disk drives working in certain modes could be used to read data slightly better than they can write data. Producers of video games exploited this, joining with early videogame publishers to implement so-called ‘copy protection’ for games delivered on floppy disk. Then, so that games could be copied and shared, programmers worked to alter what was on these disks and remove the copy protection – to *crack* the games.

This activity of cracking software led those who were removing copy protection to enhance the software they were dealing with in certain ways. It was possible to tidy programs up and compress them a bit for easier copying (This tradition is alive and well in many circles, including even electronic literature. At a reading at the Modern Language Association, Jim Andrews told the story of how, when one of his works was being translated into Finnish, Marko Niemi returned not only the translation but also a version of his program that was bug-fixed and tidied up.) If there was a little space on the disc, either to begin with or as a result of this compression, it was possible to add a sort of splash screen that credited those who did the cracking and that pilloried the crackers’ enemies. Of course, those who cracked and distributed software took the opportunity to do this, and the ‘intro’ was born – the first production. With it, although crackers of software may not have known at the time, was born the demoscene.

This sort of crack screen or ‘intro’ to the game had to fit in a small amount of space; it was initially sometimes a static image, sometimes slightly animated. The intros and longer demos that are shown nowadays, like the graphics and chip-tunes that are also featured at demo parties, are there for their own sake, not introducing games or demonstrating anything except aesthetic computation. Initially, they demonstrated one trick or a series of tricks tied together by very little – perhaps music, perhaps a certain graphical style. Now, in our current era, where design is highly valued, demos tend to offer unity rather than units and often treat a theme, portray subjects, evoke a situation or narrative. They remain closely tied to platforms, either ‘old school’ platforms such as the Commodore 64 or Amiga or current computers running recent versions of Windows.

The demoscene has its own values; demos can be dark and industrial but tend to project a rhythmic, utopian world with cities that rock out in unison. Demos are shown at parties to those in the know, where they are voted on by the attendees, who are essentially all programmers. They have their own traditions and obligatory segments, including shout-outs to other demo groups. They are programmed in groups and sometimes worked on at parties in larger collaborative settings. While demos are not truly mainstream in any way – not managing to be pure computer science productions, not accepted as art, not reaching the status of an Internet meme – they are one of the richest non-mainstream uses of the computer.

Revisiting those Four Points

Now, I will consider the four main points that I made about programming once again in light of these three glimpses.

Programming is a social as well as a cultural activity.

This seems worth reiterating, but it also seems by far the least controversial of these points. Are there any human activities that are not social, that do not occur within society and culture, relating to each in some way? What I mean to assert here is simply that the social and cultural dimensions of programming are significant. This would almost certainly be granted from the outset, but the glimpses of different programming practices in different contexts, and engaging with different dimensions of culture, and with different communities, should provide a clear warrant to this claim.

Programming is a deep engagement with computation that can connect the power of the computer to creative purposes in ways that other practices cannot.

There is a fantasy, sometimes voiced, that the full power of the computer can be harnessed without programming, without a programmer. If one's goal is to develop a standard sort of computer production (a slide-based presentation, a spreadsheet, a text, a *LittleBigPlanet* level, or so on) then one of course does not need to program. Greetings cards, however, are no substitute for the ability to write and express one's self, no matter how well-designed they are. To make full use of the general-purpose computer, there is no substitute for a general-purpose programming language of some sort. To make full use of such a language, knowledge of programming is essential. The accomplishments of recreational programmers, of home computer programmers, and of demosceners could not have been made with point-and-click interfaces.

Programming communities are related to computational platforms, longstanding art and media practices, and communities of practice beyond programming.

The glimpses shown have revealed connections between programming and communities of many other sorts, from model railroad hobbyists to film enthusiasts. Communities of programmers have also been closely associated with particular home computer platforms (during the era of home computer programming) and various other platforms from those up through contemporary platforms (as seen in the demoscene). Clearly, programming is not a pure activity that people rally around for its own sake, without any concern for their other engagements with media or for the computer platforms that they know and use.

Programming is not an activity restricted to professionals with years of training; some essentials of this activity can be undertaken by computer users after a few hours.

This idea, which may have been initiated with the populist Dartmouth BASIC, was a commonplace by the early 1980s, when home computers were pitched to the public as machines that were programmable by anyone. While purpose-built software has exploded since then and standardised systems (such as those for 'office' productivity) have become rich with features, popular programming has not kept pace. Nevertheless, systems such as Processing and to some extent HTML with JavaScript allow people to see each other's code, to learn from it, and to quickly try their hands at programming.

In this discussion, I haven't even started in on the question of how the contemporary free software movement may hold lessons for electronic literature and free culture. Or, for that matter, of how electronic literature and its work with innovative interfaces, careful translation of language and function, and the connection of literary and artistic work with critical perspectives might inform other areas of programming practice. All of this, and more, is important in continuing the conversation but must be left for the future.

Since the earliest days of computing, programming has been a social activity, undertaken at times for fun and for creative purposes. Programming may be, for some, a way into electronic literature – as it was for me; I started programming interactive fiction and poetry generators almost as soon as I started to write programs. For others, electronic literature may be a way into programming. To learn more about programming may enrich the electronic literature practice of certain authors, but it may also be a way to more broadly make use of the computer, turning computation to practical purposes and to a variety of cultural interventions, literary and otherwise. Programming is not in every way like literacy, but it is similar in how it can be individually and socially empowering. It can extend the range of activity that is done on computers, showing new possibilities and directions. To realise the cultural potential of the computer, programs must be made by all.

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Works Cited

Brand, S. (1972) 'Spacewar: Fanatic Life and Symbolic Death among the Computer Bums' *Rolling Stone* 123: 50-58. December 7.

Carlsson, A. (2009) 'The Forgotten Pioneers of Creative Hacking and Social Networking – Introducing the Demoscene' *Re:live Media Art Histories*. http://www.mat.ucsb.edu/Publications/burbano_MAH2009.pdf

Graetz, J. (1981) 'The Origin of Spacewar' *Creative Computing* 7:8, 56-67. August.

Hafner, K. & Lyon, M. (1996) *Where Wizards Stay Up Late: The Origins of the Internet*. New York: Simon and Schuster.

Kidder, T. (1981) *Soul of a New Machine*. New York: Little, Brown and Company.

Montfort, N. (2003) *Twisty Little Passages: An Approach to Interactive Fiction*. Cambridge, MA: MIT Press.

Montfort, N. (2012) 'Gamer vs. Scener, or, Scener Theory' *Opening keynote, DiGRA Nordic 2012*, Tampere, Finland. June 7. http://nickm.com/post/2012/06/gamer-vs-scener-or-scener-theory/

Montfort, N., Baudoin P., Bell J., Bogost, I., Douglass, J., Marino, M., Mateas, M., Reas, C., Sample, M., & Vawter, N., (2013) *10 PRINT CHR$(205.5+RND(1));: GOTO 10*. Cambridge, MA: MIT Press.

Tasajärvi, L. (ed.) (2004) *Demoscene: The Art of Real-Time*. Helsinki: Even Lake Studios.

THE COMPELLING CHARM OF NUMBERS: WRITING FOR AND THRU THE NETWORK OF DATA

Roberto Simanowski

Remember your old diary, how you tried to catch up Sunday afternoons to explain what you had experienced that week? Remember how you copied from the letters that held the feelings and thoughts events had triggered? How you copied the other way round – those old days when the events in your life summed up to a story of your life, when everything happened for a reason and became a lesson. Almost like the 'diaries' of historians, who don't accept chance but see deeper meaning in everything. Destiny, above all; the labour of reason, as Hegel famously put it. Not many historians still see history this way; combining events into grand narratives. In postmodern times writing is different. And the personal diary? It is back, people say. Back on Facebook and called Timeline – which sounds like a new word for a chronicle. And indeed, it works like those earlier forms of historiography, that shy away from narrating. Let's start with the past, before we explore Timeline, and compare it to other phenomena in current culture, discussing its meaning as a symbolic form of our time. Those who wish to discuss data in digital networks only from a political perspective of captivation may skip the following text and jump to the last section of this essay.

Order of Time

At the beginning there was the number. This is how the history of historiography could be described if, instead of Herodot, one thinks of the Annalists of the Middle Ages. The annals listed events according to the year they happened, without explanation. Thus, the *Annales Sangallenses Maiores, dicti Hepidanni* of the *Monumenta Germaniae Historica* presents the following entry for the year 709: 'Hard winter. Duke Gottfried died.' The entry for 710 reads: 'Hard winter and deficient in crops.' 720 notes: 'Charles fought against the Saxons.' (White 1987: 6f.) There are no explanations or speculations about the cause for deficient crops or the war with the Saxons. The import of natural and social events 'consist in nothing other than their having been recorded.' (Ibid. 7)

The most remarkable element, however, is the listing of years in the left-hand column without any entry in the right-hand column: 726, 727, 728, 729, 730. In fact, the *Annals of Saint Gall* end recording the circle of years: 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072. Why such pedantic recording if there is nothing to report? Because, the hero of this kind of historiography is time itself.

The US-american historian Hayden White, who presents the example at hand, puts it this way: 'the list of dates can be seen as the signified of which the events given in the right -hand column are the signifiers' (Ibid. 9) The reported events, such as famine and war, only signify the really important event: the fullness of time, i.e. 'the fullness of the "years of the Lord." (Ibid. 11). No matter whether there are events to report each year, it is important to report the event of each year. Because this is the actual narrative the historian had to witness, a story with a clear beginning and an unforeseeable, but inevitable end: the year of Incarnation and the Last Judgement. The hero of this story was not a person or a country but God.

It is different with another form of historiography, the chronicle. Though time is addressed in the term already, similar to the annals, and serves as the organising principle of the report, the central subject is not God but a person, a city, a region. Similar to the annals, the chronicle lacks closure, 'that summing up of the "meaning" of the chain of events with which it deals that we normally expect from the well-made story.' (Ibid. 16). Chronicles lack a conclusion since they report in 'real time'. Conclusion can rather be found in 'proper history', the third form of historiography. White discusses which has a proper narrative: a finalised correlation of events. The principle of correlation translates the law of conservation of energy into history and assumes that every event follows from something and leads to something. The aspect of closure is based on the retrospective mode of this kind of historiography. 'Proper history' relates to the Chronicle like autobiography to a diary: it reports from the end, which also means to give meaning from the end.

These three forms of historiography do not progress from each another. If one thinks of Herodot and Homer, it is clear: at the beginning of the history of historiography was the word and the story. However, it was in the second part of the 18th century, when history established itself as an academic discipline, that historians demanded a principal shift in historiography: from the accumulation of insulated events towards a system of interrelated events. The mere collection of events, proclaims Wilhelm von Humboldt in the early 19th century, would mean to stay with an outer, literal, and apparent truth and to miss the actual, inner truth found in causal correlation (Humboldt 1905: 36).

The central issue in historiography is where narration starts. Shall the author, the historian, turn insulated events into a meaningful story or shall the reader do so? Related questions include, how detailed can a description be without applying narrative elements and how undetailed must it be in order to not undermine the narrative at hand? One of the opponents of a mere accumulation of historical data without a correlating story, the German Johann Christoph Gatterer, declares, already in 1767 in his programmatic text '*Vom historischen Plan und der darauf sich gründenden Zusammenfügung der Erzählungen'* (roughly translated: On the plan of history and the composition of narratives), that events that do not belong to the narrative system are now, so to speak, no longer events to the historian (Koselleck 1975: 663).

The neglect of details in favour of an inner truth and the preference of this truth to a mere literal truth can be seen again in the debate on photography and is an important factor in the comparison of the old diary to the new, Facebook. Lets throw the annalist's quill into the sky and see how things develop a thousand years later. Of course, the computer plays a central role and writes, in both ways, history. Interestingly, the datum, so important to the annalist, is central again, as well: as the given. The chronicle is now called Timeline and is not written by an outside observer but by the observed herself: and the events reported are not wars, plagues, or coronation; it is ordinary life, with all its battles, diseases and parties.

Timeline

When, in September 2011, Facebook introduced its new Timeline feature, it promised, this would change your life. Sure, this is a running gag at every Facebook developer's conference. However, this time it was true, at least in terms of how people remember their life.

Of course, Facebook had been a live ticker of one's digital life for a long time. It not only presented your status entries and friends' comments and all the photographs and videos you uploaded. It also recorded what you visited and liked in other parts of the Internet. However, back then, the records disappeared into the abyss of your website. Now they can be easily accessed via the time-menu at the right-hand side, representing years, months and days. This is not an insignificant difference and, if there were no search engines online, it could be as great as the difference between the scroll and the codex. With this new navigation tool you can easily look things up: graduation day, holiday pictures, comments before and after a wedding, comments on divorce etc.

Timeline has been called the diary of the 21st century. This sounds appropriate and everybody knows it is a metaphor, for a website is not a book and a book can't contain videos. However, the metaphor is still wrong. Timeline is not a diary but, metaphorically, a photo album; a photo album whose pictures one may have created oneself but not personally put into the album. This is not a small difference and, to remind you, by picture I mean not only images but also text. What does that mean?

Timeline is not a diary in that that it doesn't describe – or record –experiences at the end of the day, week or month. Rather experience inscribes itself in real time into Timeline. If you share a YouTube-video with a Facebook-Friend the link is sent to the friend and the sharing is reported at Timeline. You don't write: today I shared that-and-that video for that -and-that reason with so-and-so. Facebook itself reports the action: such-and-such shared that-and-that with so-and-so, as well as the time and link. Since the system automatically reports the given action to Timeline, one should say: it is the action that reports itself. That means: Reality is represented as a kind of technical 'naturalism'.

Text as Photograph

To provide historical and poetic context: in the middle of the 19th century German critics accused realism in writing of daguerreotypist resemblance and as idolism of pure materiality. This accusation was overhasty, since German realist literature in 19th century was also called poetic realism, as it defended the matter of poetry. The accusation was more appropriate with respect to Naturalism, the writing movement of the 1880's and 1890's. Naturalism aimed at a writing based on a quasi scientific foundation, conceptualising the author as an experimenter who connects certain characters under certain circumstances and analyses and records the results as detailed and objective – i.e. with as little poetic embellishment or expectation induced by the author as possible (Bölsche). Hence, writing became recording and resembled photography, as well as such a different media might.

Naturalism was the target of the criticisms that had been previously addressed to photography. It was accused of a cold mechanical recording without emotion. For many, Naturalism's agenda of presenting the truth in a factual way only represented the loss of deeper insight and objection. Thus, Adorno questioned the aesthetic creativity of mimetic naturalism and notes: 'Artistic products that are nothing but regurgitations of what is happening socially, flattering themselves that this kind of metabolism with second nature passes for a genuine process of copying such products, are smitten with silence.' (Adorno 1984: 327).

Albert Camus even considered the style of naturalism in literature as the expression of nihilism, precisely for its apotheosis of a reality that does not impose any transformation or correction on reality. The artist claims, notes Camus of the poetic principle of naturalism, to give the world unity by withdrawing from it all privileged perspectives, including the perspective of the artist herself. In this sense, Camus holds, the artist

> renounces the first requirement of artistic creation: Whatever may be the chosen point of view of an artist, one principle remains common to all creation: stylisation, which supposes the simultaneous existence of reality and of the mind that gives reality its form. Through style, the creative effort reconstructs the world, and always with the same slight distortion that is the mark of both art and protest (Camus 1956: 268, 271).

It should not come as a surprise that in practice naturalism was not as objective and factual as intended in theory. In addition, it is well established that photography is less a display of reality than of a certain relationship to reality, expressed by the theme and moment chosen, the perspective and focus applied and the camera and footage used. However, it is also a matter of fact that a painter must decide how to represent an object that may only exist before her inner eye, while a photographer has the object present itself on the film, which is why photography pioneer William Henry Fox Talbot calls this technology the 'pencil of nature' and why this technology has the name photo-graphy: writing with light. This is also why Charles Sanders Peirce, in his concept of the sign, eventually classified photography as indexical, marking a physical connection between the signified and the signifier. The photograph is as much the direct result of the photographed as smog of fire.

This physical correlation between the signifier and the signified is also true for Timeline. The recorded data of shared links, visited videos and music listened to on the Internet are indexical for they directly result from the action they represent, with such stubborn pedantry that even changes to the menu-language in the account settings is documented on Timeline. From a media ontological perspective Timeline can be considered textual photography (*Textphotografie*), appropriating the sense of the term for linguistic photography (*Sprachfotografie*), coined by German art critic and media theorist Boris Groys, to describe the fact that the computer does not store the *meaning* of a text but every single word. The main unit of the text is no longer the sentence but the word, Groys concludes, and he continues: like in photography the central element is no longer the visual expression ('malerische Ausdruck') but the object (Groys 1996: 385). One can even go further, suggesting the single letter is the actual object of linguistic photography; because not a single one is lost when Timeline stores who shared what with whom and when with what comment.

It is the same 'magical eccentricity of the detail' Jean Baudrillard attested to photography, arguing the details block out the 'view of the world', the ''approach' to things' (Baudrillard 2000: 130). This is also true for one's texts, status updates and comments on Facebook. These texts are also documented, word by word, letter by letter. There is no retrospective entry into the diary giving the gist of what you had said, because now the diary is the

same place where you recorded it. The diary is itself what it should report; it is the life. If, with respect to sharing and commenting outside Facebook, we said before the event reports itself to the diary, we can now upgrade: the event is the report.

This shift from a deliberate report to an automatic record has inevitable consequences for how we remember the past. If everything is recorded in a literal way, letter by letter, detail by detail, there is no way to see past events in various shades. That means there is no strategic remembering or forgetting from the perspective – and personal narrative – of the presence.

Siegfried Kracauer, in his essay on photography 1927, considers this constellation as loss of meaning. For Kracauer, photography captures the given as a spatial continuum, while the memory image preserves it insofar as it means something. For Kracauer, therefore, the memory image is a person's actual history. Baudrillard radicalises the announced loss, stating that with photography the object can prevail with its 'discontinuity and immediacy' against the will of the perceptive subject (Baudrillard 2000: 132). If, with Timeline, the diary mutates into a photo album the reported is no longer treated with respect to a certain personal narrative but documented in a factual, naturalistic, photographic manner. Interpretation gives way to raw data, the historiographic concept returns from story to insulated events, from proper history to annals.

However, Timeline provides a niche for narrative compositions. It does so with respect to holiday videos and party reports that compose images and facts in a way meaningful to the author. In addition, Timeline also encourages us to tell little stories in the new section *Life Event* providing five divisions of life events: Work & Education, Family & Relationships, Home & Living, Health & Wellness and Travel & Experiences. Each division contains subdivisions. In the case of Home & Living: Moved, Bought a Home, Home Improvement, New Roommate, New Vehicle and Other Life Events. The division Health & Wellness offers, among others: Overcome an Illness, New Eating Habits, Weight Loss and Broken Bone. Each subdivision contains the prompts for Who, When, Where, Who and With and asks for the appropriate specifics: which bone was broken, amount of weight lost, name, type, breed, and gender of the pet. Of course, one can upload images and: there is a field to complete a narrative.

With respect to cultural studies and narratology, such lists and sub-lists of events are quite interesting. They remind us of Vladimir Propp's *Morphology of the Folktale*, breaking fairy tales into a range of narrative elements that more or less structure every fairy tale. More obvious, than in the case of Propp, the list in Timeline reveals its arbitrariness. Why is there no Weight *Gain*-section? Why does the Weight Loss-section ask *with* but not *for* whom? Why is there 'Quit a Habit' but no *started*?

There is no doubt why Facebook offers entries for diseases, house sales, and new hobbies and we already know that the entry about my pet has consequences for what advertisements I see on the right-hand side of my Timeline. However, more important to the discussion here is that, distinct to Propp, the various events are not considered sequential but insular. In Propp's morphology the action of a villain is followed by a call for help; the arrival of the hero is followed by combat, victory, return and wedding. In Timeline's morphology of life events there is no option to link between the various episodes. The events are not connected in a narrative but stored as they are in Facebook's database.

This raises the question how close Timeline's *Life Events*-feature actually gets to the traditional diary or how close Facebook wants to get to it at all. The empirical finding that this function for composing narratives is hardly used does not endorse the idea this would be the place where the old technology of writing a diary survives. That the entry of a story is optional does not support the assumption Facebook is really interested in our stories. Rather, one suspects the invitation to accomplish the life event entries with a story is supposed to detract from the fact of additional data collecting. The return to the formalist system of narrative units does not happen on the ground of recounting but counting.

Database

The point of Timeline is not that it is a diary open to the public but that it primarily contains elements that happened in public exactly the way they were reported. Rather than a description or conclusion of events, as in the traditional diary, Timeline is an automated recording in real time. There is no difference between the 'I' that experienced and the 'I'

that reports. In this manner, Timeline enforces Facebook's moral imperative of authenticity and radical transparency. Nobody shall be able to hide, not even in telling her life.

This situation has narratological consequences in three ways. First, the 'writing' of the 'diary' is outsourced to the computer by the algorithm used by Facebook and its partners in order to store the data on Timeline. Second, accounting returns to its etymological origin when it still meant counting. The fact that datasets are not meaningful, with respect to a narrative, guarantees their completeness, since they can't contradict or disturb any narrative. Third, the meaningful reading of the data is outsourced to the reader. This can, with Camus, be called nihilistic or, within the perspective of Web 2.0 participation culture, democratic. The events are not stored in a meaningful story by the diarist, who on Timeline does not write the diary but lives it. The meaningful story has to be composed by the audience or the 'diarist', once she turns into a reader of her own Timeline. Does she do that? Do the others do that? Does Timeline change the way we tell stories about our self? Does it respond to a change already happening? Our exploration must become both more concrete and general.

Let's turn to a peculiar example that has already absorbed much attention of journalists, academics, and curators, Nicholas Felton's *Annual Reports*. Since 2005 Felton collects, with statistical accuracy, the 'mundane moments of his life', as Nick Bilton puts it aptly. For example, how often he used the subway, taxi, bus, airplane, a ferry or a chairlift. How often he visited a museum, attended a birthday party, how many hours he was in the gym, how many books he read and how many book pages, and how many beers he drank and from which countries. Which books he read we don't learn. Nor what affect they had on him. Such information is something for old school diarists – if they still exist. Felton is a computer scientist, he is interested in *numerical narratives*, as the title of one of his talks suggests (Felton).

The twofold appreciation of the mundane in Felton's reports reminds us of modern methods of historiography focusing on the everyday life of ordinary people. Felton too democratises data and their producer. However, his info-graphics may only display the love of the information designer to information. In an article about Felton and other 'info -chroniclers' a young man 'who tracks everything from his mercury levels to his vitamin D consumption' confesses such love stating: 'There's so much info that it'd be a shame not to track it.' (Brophy-Warren).

Nevertheless, this strange love has a deeper agenda; the self-tracking aims at the better self-understanding provided by technical equipment such as a counters, stopwatches, pedometers, or GPS systems. And, indeed, what does one learn about oneself after a trip to the Himalayas if one doesn't know how many miles one has covered and how many cups of tea consumed? To be fair, the *Quantified Self*-community – gathering in about 40 groups worldwide – conducts tracking in a much more meaningful way. The number of cups of tea may not say much about who you are but the number of tweets you send and retweets you get does. The activists of *selfknowledge through numbers* – as the slogan at quantifiedself.com reads – have reasonable points in arguing that statistical self-tracking replaces diffuse self perception through precise and incorruptible numbers because those numbers are correct, even if they have been manipulated.

Self-tracking seems to be the solution to the old problem of self-knowledge, if gained on a narrative basis, for example in the case of the old diary – that it is not discovered but configured. With numbers it is pure reality that speaks. One can use more chairlifts to raise your annual report's chairlift score. But then one really has been in more chairlifts. Of course, even numbers must be interpreted, which is when they become subject to narrative. Nonetheless, as the term numerical narratives – which should more aptly read as numerical *exposition* – implies, the recount is bound to the numbers among which countless comparisons and assessments might be conducted. Numerical narrative is narration out of the spirit of the database.

Looking from a more general perspective at the phenomenon described – Felton's *Annual Reports*, the *Quantified Self-movement*, and *Timeline* – we may turn to a thesis Lev Manovich offered more than 10 years ago. In his book *The Language of New Media* Manovich speaks of a natural enmity between database and narrative: 'Competing for the same territory of human culture, each claims an exclusive right to make meaning out of the world.' (Manovich 2001: 225). While the way a narrative makes meaning out of the world is to 'create a cause-and-effect trajectory of seemingly unordered items (events)', the database 'represents the world as a list of items, and it refuses to order this list' (ibid.).

With reference to Erwin Panofsky's analysis of linear perspective as a 'symbolic form', Manovich calls databases 'a new symbolic form of a computer age . . . a new way to structure our experience of ourselves and of the world.'

The central role of the database reminds us of those early days of historiography when history was treated not as a story but as a list of dates. Even though Manovich does not elaborate on the possible reasons for a return to an earlier form of structuring experience, he throws in three important names and keywords to understand the correlation between the modern history of Western civilisation and its current symbolic form: 'After the death of God (Nietzsche), the end of grand Narratives of Enlightenment (Lyotard) and the arrival of the Web (Tim Berners-Lee) the world appears to us as an endless and unstructured collection of images, texts, and other data records, it is only appropriate that we will be moved to model it as a database.' (Manovich 2001: 219).

As an example of this shift, Manovich refers to data-indexing which, back then, could be found at every second website in the form of link-lists. As we have seen, today there are other types of data-indexing, the most popular being Facebook. The fact that Timeline also provides pockets of narration – as the old, now replaced symbolic form – only underlines Manovich's notion that new media 'does not radically break with the past' but 'distributes weight differently between the categories that hold culture together, foregrounding what was in the background, and vice versa.' (Manovich 2001: 229). Besides, not only is the *Life Event*-section secondary to Timeline, the narrative element in these sections is also secondary to their database aspect.

Object-Oriented Philosophy

Manovich's notion on the shift between database and narrative needs to be developed, especially with respect to the keywords and names he drops. The starting point can once more be historiography, as what appears to be a methodological question in the history of science is actually a socio-psychological one. The assumption is: humans need stories, they must give things a narrative home to feel themselves at home. This is true from both phylogenetic and ontogenetic perspectives.

Some representatives of narrative psychology speak of a natural 'readiness or predisposition to organize experience into a narrative form.' (Bruner 1990: 45). This readiness answers to the need to see one's own life as a line of coherent and meaningful events (Randell, Polinghorne). This coherence is our own personal law of conservation of energy; it is the metaphysics of our existence. As Paul Ricoeur famously puts is: 'time becomes human time to the extent that it is organised after the manner of narrative.' (Ricoeur 1984: 3). In this light Descartes' famous equation on identity reads: I narrate, therefore I am.

In both perspectives, ontogenetic and phylogenetic, it is well established that narrative understanding can't escape retrospective construction and that historiographical observation is infected by theory. Postmodern theorists have questioned the possibility of knowledge independent of an individual or collective framework determined by cultural and social factors. There is no access to the world outside a specific vocabulary, value system or disposition. An inevitable target of this scepticism was the illusion of a truthful reconstruction of history. Thus Hayden White rejected the idea that 'a fact is one thing and its interpretation another' and pointed out what Gatterer had confessed already in 1767: 'The fact is presented where and how it is in the discourse in order to sanction the interpretation to which it is meant to contribute.' (White 1975: 55).

Ever since then there have been attempts to establish theories offering direct access to facts independent of interpretation. In historiography this raised the term of the 'individual thing', the fact before its use within any narrative (Ankersmit 1983: 172). In philosophy we are witnessing, in the context of *Speculative Realism* or *Object-Oriented Philosophy* and *Ontology* respectively (Meillassoux, Bryant, Graham, Bogost) the attempt to gain access to the thing in itself, independent of 'correlationism' as Quentin Meillassoux calls the philosophical tradition that insists, since Kant, that objects only exist in relation to human perception.

Against this background the symbolic form of the database may be considered the technical solution to a philosophical problem. The common denominator, overcoming the paradigm of narrative. This paradigm is central to the logic of postmodern thinking and inevitably considered the foundation of all interpretation and claims to truth. Now, there

is the effort to let events and data speak for themselves, before any individual would 'force' data into a narration. The representatives of *object-oriented philosophy* don't conceal their opposition to the anthropocentrism of philosophy and social and cultural studies. Is Timeline the technical response to this philosophical challenge? As a technology designed to achieve and store data produced by humans independent of a human perspective it appears as a technology that promises a new positivism.

Disclaimer

The replacement of narrative by database as the new central form of human culture and the role Timeline plays in this process certainly need further discussion. Given the limited space here I have to elaborate in these questions elsewhere. However, I will at least outline the further elements of the discussion.

Against the supposed achievement of the *quantified self* and *object-oriented philosophy* we need to take into account the importance of narrating as an intellectual practise demanding and performing analytical, synthetic, and linguistic skills. Where is the place to exercise the cognitive skills and psychological competence connected with narrating in contemporary culture? How does Timeline's abandonment of such practise in writing relate to the loss of deep reading resulting from the shift from deep to hyper attention? Does Bernard Stiegler's understanding of this shift as a psychogenetic mutation undermining emancipation and enlightenment apply to Timeline?

Such a perspective, following the old arguments of critical theory on cultural industry, should be confronted with Lyotard's aesthetics of the sublime, turning the crisis of narration into the mystery of being by liberating the event – or data respectively – from the chain of narration. In this concept meaning and narration is replaced by intensity and the absence of deep thinking appears as the depth of the present moment. To what extent do we have to read the rise of hyper attention and the psycho-technology of Facebook as the logical response to the end of narratives in both phylogenetic and ontogenetic perspectives? Is the hyper-active, unfocussed flurry on Timeline the pop-cultural version of Lyotard's high-culture sublime?

It is obvious that the theoretical discussion of the issue eventually needs to be related to empirical studies investigating the role of the diary, before Timeline and since weblogs. How popular are online journals today? What other forms of autobiographical narration can be found in contemporary communication; in letters or emails, conversations among friends, psychotherapeutic sessions? How do Timeline or Facebook, and other social networks in general, affect the culture of narrative diaries? How present are narrative elements in Timeline and other social networks? Above all: To what extent is the database as a new 'symbolic form' of modulating personal experiences making the narrative modulation more and more obsolete?

On the grounds of these considerations and concerns, and regarding the challenges to future electronic writing not in the remote domain of the avant-garde niche but in the most popular district of new media, we should also examine the prospect of counter culture. How can the mode of narration be entered into the presumed realm of database? Technically, Timeline does not prevent making the narrative its central element by posting very long texts in the *status* or *life events* section, and by generating a net of references between different entries. Would this allow the *détournement* of Timeline, the turn or remediation of the supposed diary – that is nothing else than a database – into a real diary fostering self-understanding by practising narrative skills?

Finally, it should be clear that what is discussed in this essay goes beyond the obvious, that Facebook's desire for data illustrates the vectoralisation of 'big data' by 'big software' as John Cayley puts it (in a personal conversation) and the 'infrastructural imperialism' Siva Vaidhyanathan discusses with respect to Google (Vaidhyanathan). It is evident that the critique of the economic and political implications of such desire and vectoralisation is crucial, even though the aim of this essay was to address the additional reasons for and consequences of the obvious that also need to be taken into account in order to understand the complex structure of desires behind the phenomenon discussed.

It is unquestioned that the only narration really important to Facebook's data worship is the one about personal behaviour in terms of consumption patterns. This agenda can also be detected in many of the *Quantified Self* start-ups. It should come as no surprise

that even Felton's *Annual Report* soon proved their economic potential. Felton not only founded a company to help others collect and organize their tracked data, aptly called *daytum*. Since 2011 he also works for another much bigger company to integrate his info-graphic ideas into their business model: Facebook. Such promotion of somebody who appeared in art galleries but also was suspected of obsessive-compulsive disorder was predictable, at the latest after Felton's listing as a keynote speaker for the NEXT Conference 2011.

In the information society, where profit results from faster access to and better analysis of information, everybody experimenting with information or data is a future proofed candidate. Hence, NEXT Conference, that informs the business world about 'how the consumer on the Internet will be evolving', gave its 2011 conference the title *Data Love*.[1] The explanation is instructive in terms of both media philosophy as well as business-management:

> Data is the resource for the digital value creation and fuel for the economy. Today, data is what electricity has been for the industrial age. Business developers, marketing experts and agency managers are faced with the challenge to create new applications out of the ever-growing data stream with added value for the consumer. In our data-driven economy, the consumer is in the focus point of consideration. Because his behaviour determines who wins, what lasts and what will be sold. Data is the crucial driver to develop relevant products and services for the consumer.[2]

[1] http://nextconf.eu/next11/about/summary

[2] http://nextconf.eu/next11/next11-means-data-love

The fact that Felton's lecture *Numerical Narratives* was listed as a possible keynote for this conference[3] says a lot about the obvious. And we know that the 'new applications out of the ever-growing data stream' not only intend adding 'value for the consumer' but also, and first of all, for the companies. The shift from narrative to database announced by Manovich as a new symbolic form of our culture is symbolic also for the ongoing shift from culture to economy. The 'new way to structure our experience of ourselves and of the world.' (Manovich 2001: 225) may be driven, as claimed by Manovich and elaborated in this essay, by the death of God and the end of grand narratives (Ibid. 219). Nonetheless, the obvious ramifications of the shift from the narrated to the quantified self is undoubted. Its terms are: capita, vectoralisation, infrastructural imperialism, programming industry. The end of the diary as we knew it is not just a philosophical and psychological issue but also an economic and political one. The latter we knew before the former should be considered as well.

[3] http://vote.nextconf.eu/details/numerical-narratives

Bibliography

Adorno, T. W. (1984) *Aesthetic Theory*. trans. by C. Lenhardt. London: Routledge & Kegan Paul.

Ankersmit, F. R. (1983) *Narrative Logic. A Semantic Analysis of the Historians's Language*. Den Haag. Boston, London: Nijhoff.

Baudrillard, J. (2000) *Photographies 1985-1998*. Ed. Peter Weibel. Ostfildern-Ruit: Hatje Cantz.

Bilton, N. (2010) 'An Annual Report on One Man's Life' *The New York Times*, February 9, 2010. http://bits.blogs.nytimes.com/2010/02/09/an-annual-report-on-one-mans-life

Bogast, I. (2012) *Alien Phenomenology, or What It's Like to Be a Thing*. University Of Minnesota Press: Minneapolis.

Bölsche, W. (1887) *Die naturwissenschaftlichen Grundlagen der Poesie: Prolegom-ena einer realistischen Ästhetik*. Leipzig: Carl Reissner.

Brophy-Warren, J. (2008) 'The New Examined Life. Why more people are spilling the statistics of their lives on the Web' *Wall Street Journal*, December 6, 2008. http://online.wsj.com/article/SB122852285532784401.html

Brunner, J. S. (1990) *Acts of Meaning*, Cambridge. MA: Harvard College.

Bryant, L. R. (2011) *The Democracy of Objects*, University of Michigan Library.

Camus, A. (1956) *The Rebel: An Essay on Man in Revolt*. New York: Vintage.

Felton, N. (2011) 'Lecture Numerical Narratives'. *UCLA Department Design, Media, Arts*. November 15, 2011. http://video.dma.ucla.edu/video/nicholas-felton-numerical-narratives/387

Groys, B. (1996) 'Der Autor im Netz' in Bollmann, S., Heibach, C. Mannheim (eds.) *Kursbuch Internet. Anschlüsse an Wirtschaft und Politik, Wissenschaft und Kultur*. Bollmann 1996, pp. 381-388.

Harman, G. (2011) *The Quadruple Object*, Winchester. UK, Washington, US: John Hunt Publishing.

Humboldt, W. von (1905) *Wilhelm von Humboldts Werke*, ed. Albert Leitzmann. Berlin. Vol 4.

Koselleck, R. (1975) 'Geschichte' in Brunner, O., Conze, W., Koselleck, R., (eds.) *Geschichtliche Grundbegriffe. Historisches Lexikon zur politisch-sozialen Sprache in Deutschland*. Stuttgart. Vol. 2, pp. 593-717.

Manovich, L. (2001) *The Language of New Media*. Cambridge. Mass.: MIT Press.

Meillassoux, Q. (2008) *After Finitude: An Essay on the Necessity of Contingency*. New York: Continuum.

Polinghorne, D. E. (1991) 'Narrative and Self-Concept' in *Journal of Narrative and Life History* Vol. 1, No 2/3 (1991), pp. 135-153.

Randell, W. L. (1995) *The Stories We Are. An Essay on Self-Creation*. Toronto.

Ricoeur, P. (1984) *Time and Narrative*, Volume 1, Chicago. London: University of Chicago Press.

Vaidhyanathan, S. (2011) *The Googlization of Everything (and Why We Should Worry)*. Berkeley, Los Angeles, CA: University of California Press.

White, H. (1975) 'Historicism, History, and the Figurative Imagination' in *History and Theory. Studies in the Philosophy of History*, Vol. 14 (1975), No. 4, Issue 14.

White, H. (1987), *The Content of Form. Narrative Discourse and Historical Representation*. Baltimore: Johns Hopkins University Press.

CREATIVITY AS A SOCIAL RELATION?

James Leach

Social science in general and anthropology in particular has long attended to core concerns with the structure and form of societies, and with the constant interplay of individual and collective elements. These concerns are obvious: how we understand the emergence and form of human worlds necessitates an approach to creative agency alongside the conditions under which that agency is exercised. As Marx famously wrote in 1852, 'Men make their own history, but they do not make it as they please'. But recent scholarship in the field of anthropology has taken theorising beyond the familiar impasses of structure and agency through an emphasis on practice (e.g. Bourdieu 1977) and on to the embodied and improvisational nature of knowledge and social action (e.g. Ingold 2000, Hallam & Ingold 2007). Creativity is central here. But creativity conceived not as individual genius (an approach that generates questions about how the individual and the collective collide; one clearly linked to other assumptions Westerners make about the bounded-ness of individual minds, and the proprietary nature of the self), but creativity as an emergent (and necessary) aspect of social relations.

As anthropological study is based in a deep engagement with the potentialities and differences between human life-worlds (e.g. Descola 1994, 2005; Vivieros de Castro 2009, 2010), much of the best anthropological work has taken as its inspiration (and guiding its methodology) ideas and concepts generated in the ethnographic encounter with other traditions, traditions where those concepts of individual boundedness and self-propriety do not dominate. At present this approach is well represented by the work of Marilyn Strathern, whose reformulation of the problems of western epistemology in dialogue with the detailed practices and understandings of people in Melanesia has shown the possibilities not only for understanding other ontological systems, but for this understanding to illuminate core theoretical assumptions and approaches within western society, and in anthropology itself (e.g. Strathern 1988, 2005 etc.). So alongside the recent turn in theorisation, a long standing tradition of questioning assumptions that lie behind our theories is adding to the need to re-think creativity as more than the work of exceptional individual minds.

What this anthropology has made possible is the formulation of conceptual approaches that move us outside and beyond the recurrent divisions between persons and objects, individuals and society, creative genius and slavish replicators.

Rather than describing static systems and their properties, the understanding of social relations as creative asks us to make links between the emergence of social forms of particular kinds, and of the objects and things that facilitate that emergence. In attending to the generation, and to the reciprocal constitution of persons, places, landscapes, things, meaning, and knowledge, we require a conceptual language with which to approach things as they come into being: an understanding of sociality as inherently creative, and attention to the relations in which things are constituted and in which they necessarily have their effects.

In my own work, the topic of creativity as a social relation converges a range of apparently diverse phenomena and events from the formation of landscapes, artworks, social groups and knowledge in Papua New Guinea to creativity and social form in interdisciplinary and artistic practice in Europe; from newly emergent technologies (specifically software and the emergent objects/communities that are made possible by its functioning), to legal forms that govern and channel the outcomes of creative practice. My initial regional grounding in the ethnography of Melanesian societies has provided the theoretical and comparative underpinning. It is this stimulus from Melanesia that energises my work, drawing, as above, from what we can learn theoretically from our ethnographic engagements.

To fill in a little of this approach to creativity and emergent form, think for a moment about land in the very particular way it has its reality and presence in the lives of people living on the Rai Coast of Papua New Guinea (e.g. Leach 2003, 2006). Land is understood there as the significant source of creativity, and of 'knowledge'. Connections to other people through land form the basis for kinship and identity. It is relations with the land as a series of animate places and beings that generate the ritual knowledge necessary to make the earth productive. Each place is different because of the different relations people there share with the specific entities emergent from this interaction. In sharing these particular relations to places, people share knowledge of that particular productivity, and thus 'knowledge' rather than biological substance passed on at birth has the status of something akin to shared biogenetic substance in western reckonings of kinship (Leach 2009, and see Strathern 2010).

Far from being an individual possession, such substance is by nature shared with others. The inflection this gives to the perceived location of creative work is startling: it is the relation itself that carries creative potential. And no one party can be sole proprietor of a relation other than momentarily. To comprehend this, we need to think about land not as a static backdrop to the unfolding drama of the human social and cultural world, but about how relations with and through land allow the emergence of particular places with their own knowledge and style, their own forms of making apparent in the creativity inherent in relations to others. Land then can be thought of as a kind of mediation for the social, but only if one is also willing to accept that 'the social' is a kind of mediation for the possibilities and creativity of land itself.

The fact that new places and new knowledge/myth/ritual and artistic forms are coming into being all the time on the Rai Coast alerts us then to the very different ways in which people understand their relation to valuable intangible creations (such as song, dance forms, and designs). As these emerge from specific relational nexus alongside people themselves, they are never individually claimed, but serve as exactly the basis on which people make claims of connection to others (Leach 2004, 2005a). We can learn something here. Their approach provides a stimulating contrast to intellectual and cultural property laws and precedents, based as these things are on entrenched assumptions about individual authorship, the location of creativity in the individual mind/brain, and the status of knowledge as an individually generated representation of the world (and thus not a relation with other beings and places).

Drawing Melanesia into engagements with creative practice and its management/regulatory framework in other arenas (e.g. Leach 2005, 2007) suggests that it is not only in Melanesia that we find these understandings of the social relation itself as a source of value and creative energy. There are clearly instances and precedents within practices and concepts closer to home that allow us to approach Rai Coast creativity. An analysis demonstrating creativity as a socially distributed phenomenon (with its own particular forms in different places and social contexts) is important when we come to see how emergent communities, particularly those engaging through the mediation of new technologies, come to take the shape they do.

It is a common observation that the whole area of knowledge is being radically recast in the current era of globalisation and digitisation. The concurrent emergence of free software as a model of production and collaboration (Ghosh 2005, Weber 2004), open research journals, online social networks (Benkler 2006), and the digital preservation of heritage, and the multimedia presentation of art and performance (e.g. Morphy et al. 2005) rely on new modes for the presentation and circulation of things, practices, and understandings (Castells 1996, Brown 2003). This is made possible by the transformation of knowledge into kinds of information available for encoding and transmission through information and communication technologies (e. g. Gurstein 2000, Leach & Wilson forthcoming). But while being swept along in the current of technological change (E. Leach 1968, J. Leach 2005d), we should ask questions about how the particular forms of mediation, and their metaphysics, shape both persons and knowledge. While some people once excluded from the circuits in which knowledge was produced are becoming integral parts of its production, others such as indigenous knowledge holders, or contemporary artists, are often still excluded, or participate on terms dictated elsewhere.

The reader may note a shift in language in the above paragraph from 'creativity and emergence' to 'knowledge production' that illustrates the way a productionist metaphysic lies behind the contemporary visibility of 'knowledge' in western discourse and its valuation under intellectual and cultural property regimes. Attention to forms of collaborative work highlight the specific inflections that different cultures and communities give to the location of creativity, and how forms of ownership come to structure, and be structured by, institutional expectations and legal precedents. The great promise of ELMCIP in charting and documenting alternatives is more than apparent in this regard. Indeed, it is the reciprocal effects of making things on persons, and of those processes on the organisation of relations between persons that give shape to community relations or the emergence of specifically skilled or knowledgeable actors.

The whole area of knowledge production and its relation to assumptions about creativity in knowledge economies then needs opening up to further scrutiny. For many people assume they know what is meant by 'knowledge production', and huge effort is devoted to securing the correct conditions for this form of (economic) productivity. But the way knowledge and creativity are conceptualised under such regimes is narrow and problematic. It tends to exclude many kinds of knowing, and undervalue the importance of exactly the kinds of emergent and relational, process based, forms that anthropologists see all around us. As new communities enter the field of knowledge production, we urgently need to understand the kind of knowledge they offer. I take an example close to the anthropological heart.

Always a contested and fraught area, Indigenous Knowledge (IK), or Traditional Ecological Knowledge have never been more relevant and yet more vexing than now (Descola 2008). From the potential contributions to sustainable livelihoods, appropriate medical and technological development, knowledge of and care for biodiversity, and the possibilities for sustainable resource management systems, 'indigenous knowledge' systems are under scrutiny. Yet the status of indigenous knowledge is complexly entwined with social and cultural modes of creation and transmission, with the politics and history of colonial and settler societies, with epistemological questions as to veracity, applicability and relevance, and with ontological issues about status and effect. Far from being a hindrance these entanglements provide an opportunity to rethink knowledge and creativity more widely. Science and technology studies have, after all, been demonstrating similar entanglements in scientific knowledge for some time (Law & Mol 2002, Knorr Cetina 1999).

Indigenous knowledge holders are increasingly demanding recognition for their practices without that recognition undermining the position of their knowledge as socially embedded processes. Intellectual Property has proved an inadequate route to solving these issues (see Brown 2003, Dutfield and Posey 1996, Hirsch and Strathern 2004). Moreover, the problem will not go away. For at least the last twenty years, scholars in anthropology and philosophy, the history and philosophy of science, in ecology, resource management, botany etc. have struggled to understand the epistemological basis of indigenous knowledge (Viveiros de Castro 2010).

There is a fascinating conjunction here, and the possibility for the mutual illumination of two comparable (not isomorphic) spheres of social action. Contemporary artists are also currently making claims to the status of knowledge producers, as their creative processes generate spatial, structural, emotional, physical, linguistic (etc.) forms of knowing. Fascinatingly, not only is the 'knowledge' of contemporary dance, (for example) unfolded in time and in relationships to specific others, it is also marginalised as a knowledge form in orthodox western understandings. The location of creativity, and of effect, is in the temporal unfolding of relationships. Describing these processes provides comparable, alternative historically located, inflections on contemporary knowledge and social form.

A cross-cultural confusion about what to do with indigenous knowledge and creativity lies in conventional approaches to the production of agricultural staples or the production of artefacts in indigenous Papua New Guinean societies, for example. The confusion is based on assumptions about the separation of knowledge from relationships between people (Morphy 2007). That is, standard Euro-American conceptions of knowledge view it as representational of the world of nature (Shapin & Schaffer 1989, Latour 1993). Yet indigenous knowledge is often embedded in, as if it were in fact an aspect of, relations between persons and beings of different kinds (Morphy 1991, Strathern 2010). From horticultural practices that seem to rely on superstition and ritual, to the embedded making of complex and valuable indigenous art works in life-cycle events, the entanglement of social and practical, natural and cultural, productive and decorative have proved impossible to separate (Heckler 2009, Sillitoe 2009). In fact, indigenous people themselves resist such separation (e.g. Green Gold Rush 2009). That in turn has tended to undermine the possibility of recognising Indigenous knowledge as commensurate with scientific or other forms of modern knowing (Crook 2007). Similarly, while the contemporary arts are highly valued in Western societies, a significant number of their practitioners are seeking to clarify and demonstrate the potential knowledge contributions their process-based, relational forms of creativity offer.

A series of questions follow, perhaps the most pertinent being that of where we are going to find resources to think about, understand, value, and utilise such creativity. How do we approach 'it' in a way acceptable to its source communities, and that avoids the old

issues of appropriation, distortion, and confusion over its status, while making its value available and apparent?'

The possibilities for developing a new approach are dependent on thinking of knowledge and creativity as social dynamics, as coming-into-being based around the emergence of persons and things as social processes that inform and shape institutions, politics, and cultural development. I am delighted to participate in the activities and debates around ELMCIP as these make material contributions to this effort through the focus on the way the social, as a creative force, is mediated and remediated in various ways.

July 2012, Banchory, Scotland

References:

Bourdieu, P. (1977) *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.

Benkler, Y. (2006) *The Wealth of Networks. How social production transforms markets and freedom*. New Haven: Yale University Press.

Brown, M. (2003) *Who Owns Native Cultures*. Cambridge. MA.: Harvard UP.

Castells, M. (1996) 'The Rise of the Network Society, The Information Age' *Economy, Society and Culture* Vol. I. Cambridge, MA: Harvard UP.

Crook, T. (2007) *Anthropological Knowledge, Secrecy and Bolivip, Papua New Guinea – Exchanging Skin*. Oxford: Oxford University Press.

Descola, P. (1994) *In the Society of Nature. A Native Ecology in Amazonia*. Cambridge: Cambridge University Press.

— 2005. *Par-delà nature et culture [Beyond Nature and Culture]*. Paris, Gallimard, Bibliothèque des sciences humaines.

'Green Gold Rush' (2009) Gaberell, L., & Waeber, V., *The Green Gold Rush: Bioprospecting and Indigenous Peoples*. Available at http://www.thegreengoldrush.org/movie.php.

Ghosh, R. (ed.) (2005) CODE. *Collaboration and Ownership in the Digital Economy*. M.A.: MIT Press.

Gurstein, M. (2000) *Community Informatics: Enabling Communities with Information and Communications Technologies*. Idea Group Inc Publishing.

Hallam, E. & T. Ingold (eds.) (2007) *Creativity and Cultural Improvisation*. Oxford: Berg.

Heckler, S. (ed.) (2009) *Landscape, process and power: re-evaluating traditional environmental knowledge*. Oxford: Berghahn.

Hirsch, E & M. Strathern (eds.) (2004) *Transactions and Creations: Property Debates and the Stimulus of Melanesia*. New York: Berghahn Books.

Ingold, T. (2000) *The Perception of the Environment*. London: Routledge.

Knorr Cetina, K. (1999) *Epistemic Cultures: How the Sciences Make Knowledge*. Harvard UP.

Latour, B. (1993) *We Have Never Been Modern*. Harvard University Press.

Law, J. & Mol A. (2002) 'Complexities: Social Studies of Knowledge Practices' *Science & Cultural Theory*. Duke University Press.

Leach, E. (1968) *A Runaway World? The 1967 Reith Lectures*. London: British Broadcasting Corporation.

— (2002) 'Drum and Voice. Aesthetics and social process on the Rai Coast of Papua New Guinea' (Winner of the 1999 J.B. Donne essay prize in the Anthropology of Art) *Journal of the Royal Anthropological Institute* (N.S.) 8, 713-734.

— (2003) *Creative Land. Place and procreation on the Rai Coast of Papua New Guinea*. Oxford and New York: Berghahn Books.

— (2004) (ed. with Kalinoe, L.) *Rationales of Ownership. Ethnographic Studies of transactions and claims to ownership in contemporary Papua New Guinea*. Sean Kingston Publishing.

— (2005) 'Modes of Creativity' *Transactions and Creations. Property Debates and the Stimulus of Melanesia* (eds). E. Hirsch & M. Strathern. Oxford: Berghahn Books.

— (2006) 'Team Spirit. Generating Community and the Pervasive Influence of Place formation in a Contemporary Papua New Guinean Setting' *Journal of Material Culture 11*, (1 + 2 Special Edition in Honour of Barbara Bender, (ed) C. Tilley).

— (2007) 'Creativity, Subjectivity, and the Dynamic of Possessive Individualism' *Creativity and Cultural Improvisation* (eds.) T. Ingold & E. Hallam. ASA Monograph 43. Oxford: Berg.

— (2008) 'An Anthropological Approach to Transactions involving Names and Marks, drawing on Melanesia', *Trademarks and Brands, an Interdisciplinary Critique* (eds.) Bently, L., Davis, J. & Ginsburg, J. Cambridge: Cambridge University Press.

Leach, J. (2009) 'Knowledge as Kinship. Mutable essence and the significance of transmission on the Rai Coast of PNG' in *Genealogy Beyond Kinship. Sequence, Transmission and Essence in Social Theory and Beyond* (eds.) Bamford, S. & Leach, J. Oxford: Berghahn Books.

Leach, J. & Wilson, L. (forthcoming) *Subversion, Conversion, Development: Diversity in the Adoption and Development of Information and Communication Technologies* MIT Press 'Infrastructures Series' (series eds.) Bowker, G., Edwards. P.

Marx, K. (1852) *The Eighteenth Brumaire of Louis Bonaparte*. http://www.marx2mao.com/M&E/EBLB52.html [Accessed 04.10.2012].

Morphy, H. (1991) *Ancestral connections: art and an aboriginal system of knowledge*. Chicago: Chicago UP.

— (2007) *Becoming Art. Exploring Cross Cultural Categories*. London: Berg.

Morphy, H., P Deveson & K. Hayne (2005) *The Art of Narratjin Maymuru*. Canberra: ANU EPress.

Posey, D. A. & Dutfield, G. (1996) *Beyond Intellectual Property: Toward Traditional Resources Rights for Indigenous Peoples and Local Communities*. Ottawa, International Development Research Centre, 1996.

Sillitoe, P. (2009) *Local Science Vs Global Science: Approaches to Indigenous Knowledge in International Development*. Oxford: Berghahn.

Shapin, S. & Schaffer, S. (1989) *Leviathan and the Air Pump: Hobbes, Boyle and the Experimental Life, Including a Translation of Thomas Hobbes, Dialogus Physicus De Natura Aeris by Simon Schaffer*. Princeton, NJ: Princeton University Press.

Strathern, M. (1988) *The Gender of the Gift. Problems with Women and Problems with Society in Melanesia*. Berkeley: University of California Press.

— (2005) *Kinship, Law and the Unexpected*. Cambridge: Cambridge University Press.

— (2010) 'What's in an argument? Preliminary reflections on knowledge exchanges' *UBC Vancouver Harry Hawthorn Lecture*.

Vivieros de Castro, E. (2009) 'The Gift and the Given. Three nano-essays on kinship' in S. Bamford & J. Leach (eds.) *Genealogy Beyond Kinship. Sequence, Transmission and Essence in Social Theory and Beyond*. Oxford: Berghahn Books.

— (2010) 'Zeno and the Art of Anthropology' *Common Knowledge, Symposium: Comparative Relativisms* 17:1 pp. 128-14.

Weber, S. (2004) *The Success of Open Source*. Cambridge MA: Harvard University Press.

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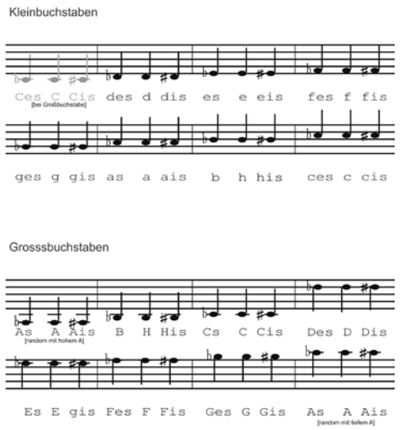
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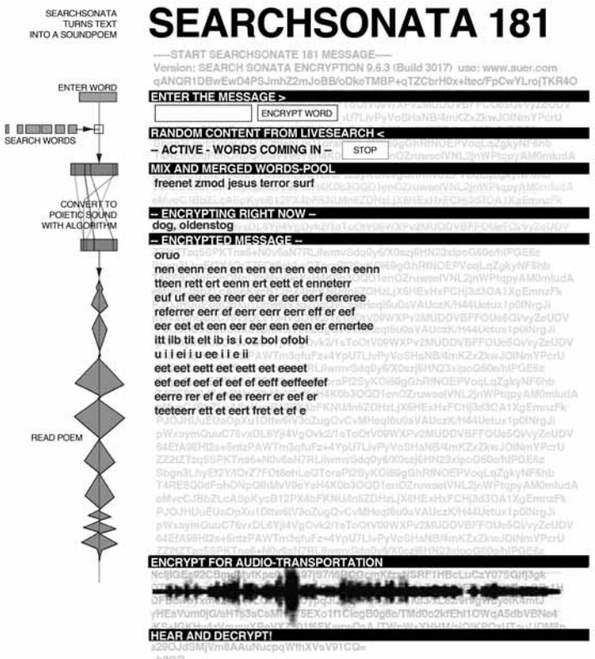
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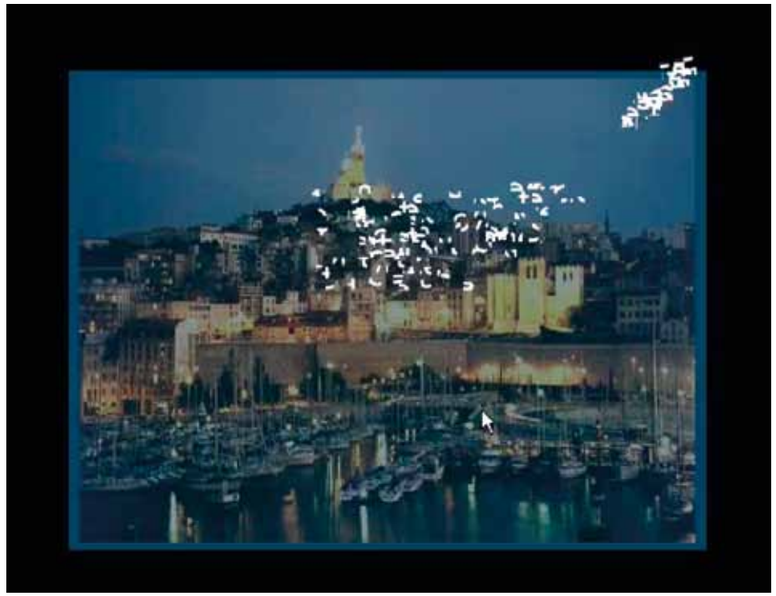

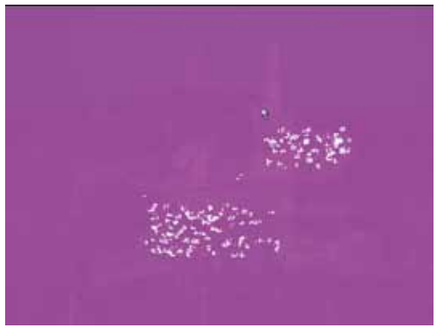


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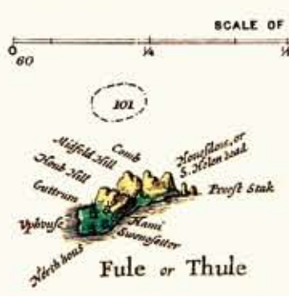
EPISODE #1
February/March 2012
Fast video compression
we decided to use Miro Video Converter for quickly compressing Duel's hefty video content. Miro is a free tool that provides drag and drop functionality for converting video clips to a number of open source formats.
No single video format is completely cross browser compatible yet, but the HTML5 video tag allows 'fall back' to any number of alternative formats. Duel has ben encoded to MP4, OGV and WEBM to try and cover all bases.
http://www.mirovideoconverter.com/
Collaborative Working On-Screen
March 2012 saw Andy and Kate meeting up in person to work together on the project. During a productive session, they viewed the first three minutes of chapter one several times, and discussed changes to the video and sound effects. Andy gave Kate a tour of the backend of the project, and they looked at the complex layers of source code behind the chapter. Together in front of the computer monitor, they re-order and edited the video, as well as discussing how to create the final section of the chapter.
Video feeding into the script
we have decided to drop actual stills from the video into the script to trigger key text narratives. As the project evolves, these stills will hopefully be converted into 'actual' screen-shots from each scene in the final work. The script also contains technical notes about the delivery of the work on each platform (divided into 3 - Desktop, Tablet, Phone.) It all looks very ambitious right now, but is rewarding and exciting to work on.
VISUALS AND DIALOGUE


February 2012
FX & EDITING
Text on the screen
Special Effects
Video Editing, Audio and Timeline


April 2012
TECHNOLOGIES
Open Source At Its Limits
Flash Strikes Back
Notes from Andy


BLOG
January 2012
Setting up the Blog
Notes from Kate
DUEL
Collaborative Script

'An owl and a girl most #{studious} #{setsail} in a #{green}green #{boat}\; a #{seaworthy} #{boat}\, certainly\, though too #{equiped} to suit the two of them.',
'They took a #{barrel} of #{food} and a #{instrument} of dubious #{accuracy}. They sought to gain #{more} #{knowledge} of #{thule}.',
'According to my #{sources}\, the girl informed the owl\, it\'s #{number} #{distance} #{direction} of here.'
'Her #{relative} had been among the most reveared of #{alchemist}s on this topic. But the girl had her own #{ideas}.',
'The owl said\, #{aphorism}. How soon he #{drift}ed off #{topic}!',
'According to my #{instrument}\, we\'re nearing the edge of #{edge}\, the girl said\, but still they sailed #{time}\, #{weather}.',
'By this time\, all the owl\'s #{diversions} had run out.',
'Don\'t #{fret}\, said the girl most #{studious}ly.',
'The #{records} she kept constitute the entirety of the #{knowledge} we have left of this #{legendary} voyage toward #{thule}.',



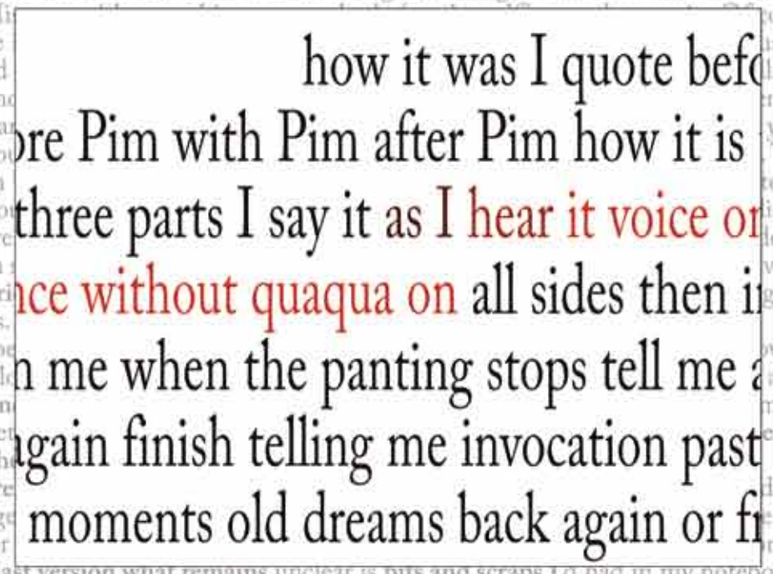
Thinking toward Remediating the social. All these small web works - There he was, gone. Voyage. — generating content for Broadside of a Yarn. The generators will be stripped out, linked to direct by Qr Codes, to be performed by phone. Bits and pieces of the images will be recycled into the wall and broadside Maps. And poetic texts such as fret will form links in these maps, trace routes.

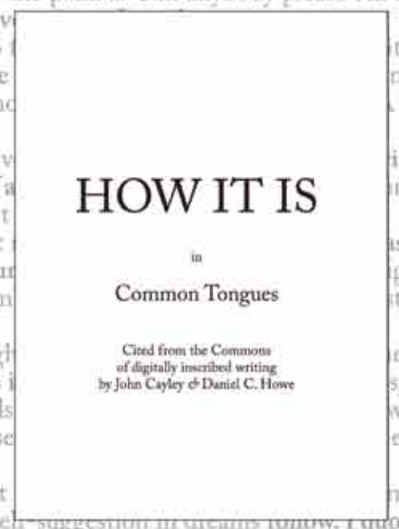
Building toponomical confusions btwn places in these texts. The Ships log in Voyage departs from Portsmouth. Heads toward the North West passage, tho no other place names are mentioned. The don't fret texts mentions Sea lung + other words more assoc. with north sea than canadian artic. Currently downloading a 69MB map of the South Orkney Islands btween South Amer and Antartica.

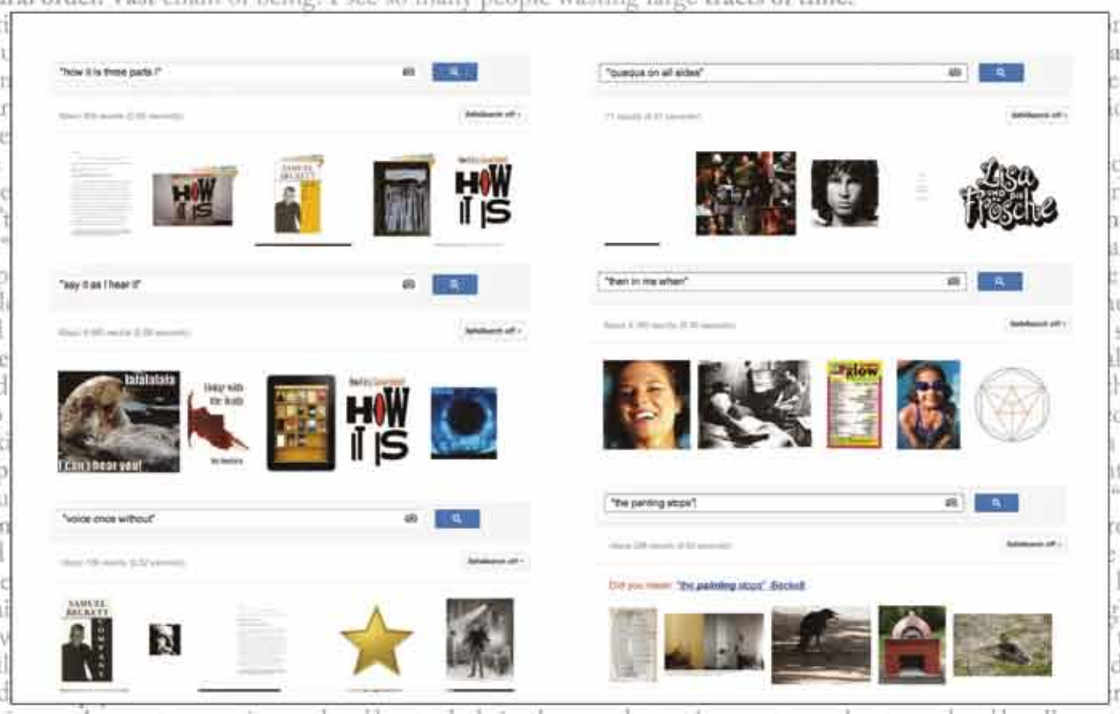
- don't fret. sea wet. mist and haze. come inland. come

don't fret
sea wet
Mist and haze
come inland
come hail or high water
come sick
come house wreck
come sea wreck
and ruin strewn ashore
wind lift
spin drift
gale blown
spray sown
storm seeds
spoon drift
moon lifts
far flung
Sea lung
a frozen tide
a breath suspended
a plant of the barrage family
Sea lung wort
leaves with an oyster-like flavour
neither land nor sea nor savour
impassable impenetrable.

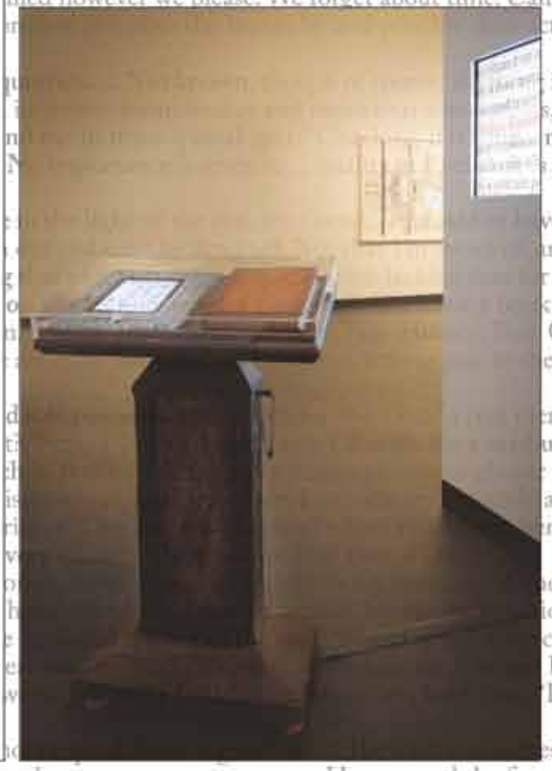
EXPLANATORY NOTE


how it was I quote bef
re Pim with Pim after Pim how it is
three parts I say it as I hear it voice or
nce without quaqua on all sides then i
n me when the panting stops tell me a
gain finish telling me invocation past
moments old dreams back again or fr


HOW IT IS
in
Common Tongues
Cited from the Commons
of digitally inscribed writing
by John Cayley & Daniel C. Howe


"how it is three parts I"
"quaqua on all sides"
"say it as I hear it"
"then in me when"
"voice once without"
"the panting stops"


how it was I quote[1] before Pim with[2] Pim after Pim[3] how it is
three parts I[4] say it as I hear it[5]
voice once without[6] quaqua on all sides[7] then in me when[8] the
panting stops[9] tell me again finish telling me[a] invocation
past[b] moments old dreams[c] back again or fresh like those[d] that
pass or[e] things things always and[f] memories I say them as I[10]
hear them murmur[11] them in the mud
in[12] me that were without[13] when the panting stops[14] scraps of
an ancient voice in[15] me not mine
my[16] life last state last version[17] ill-said ill-heard ill-recaptured[18]
ill-murmured in the[19] mud brief[a] movements of the lower face
losses[b] everywhere
recorded[c] none the less it's[d] preferable somehow[e] somewhere
[1]www.nytimes.com/books/first/w/wiesel-ws.html (Aug 14, 2012. 1)
[2]www.cameracellularphone.org/tag/device (id. 1)
[3]www.kwanmuneud.com/darknessblakorsa/?p=1501 (id. 4)
[4]www.youtube.lu/watch?v=MAsddbz_2LM (id. 2) [5]curufinw.wordpress.com/ (id. 2620000)
[6]gorwathaxwehand.guildlaunch.com/forums/viewtopic.php?t=8543276 (id. 2)
[7]pplostnr.com/people/Jim_Quaqua/ (id. 3) [8]celebrityuup.com/AJ_Langer.html (id. 5)
[9]www.parrothouse.com/hlthcare.html (id. 4290)
[a]kindle.amazon.com/work/sample?asin=B0021HHLW4M&qpr=1&qpublisher=A1SWXVW6XL4CG8 (id. 1) [b]sonicliving.com/artist/182670/past (id. 3200) [c]www.blurb.ca/tags/design (id. 25) [d]www.inimd.it/a/web/index.php?page=7&q=some-back-quotes (id. 3)
[e]www.aqfaturday.com/158/privacypolicy.aspx (id. 7070)
[f]www.ilowphilosophy.com/viewtopic.php?f=55&t=142604&start=75 (id. 1)
[10]palintemeter.com/military/Past-of-Hear.html (id. 2) [11]www.barleby.com/84/311.html (id. 29900) [12]www.facebook.com/doctowing (id. 7860) [13]lipsx.com/headlines/resignation.htm (id. 68300) [14]www.cioran63.com/anchief76.html (id. 9)
[15]circle.ubc.ca/bitstream/handle/2429/22333/UBC_1980_A1+M37.pdf?sequence=1 (id. 1)
[16]twicsv.com/rVXVig9 (id. 8) [17]garagepunk.ning.com/profile/deucelooselly (id. 1)
[18]wrwilonaao.conyx.com/life-in-forsyth-finnegans-wake.php (id. 1) [19]keck.k-state.edu/dspace/bitstream/2097/9824/1/LD2668R41985T72.pdf (id. 1)
[a]www.highbeam.com/doc/1G1-63262234.html (id. 4430)
[b]www.goodreads.com/trivia/submitted/1057191-jason (id. 1)
[c]www.ustream.tv/recorded/24228375 (id. 843) [d]www.sula.edu/cpsc/cs/mrgang/ (id. 19600)
[e]socrates.berkeley.edu/~pfalb/Palmer_Chap-08.pdf (id. 5710)
171

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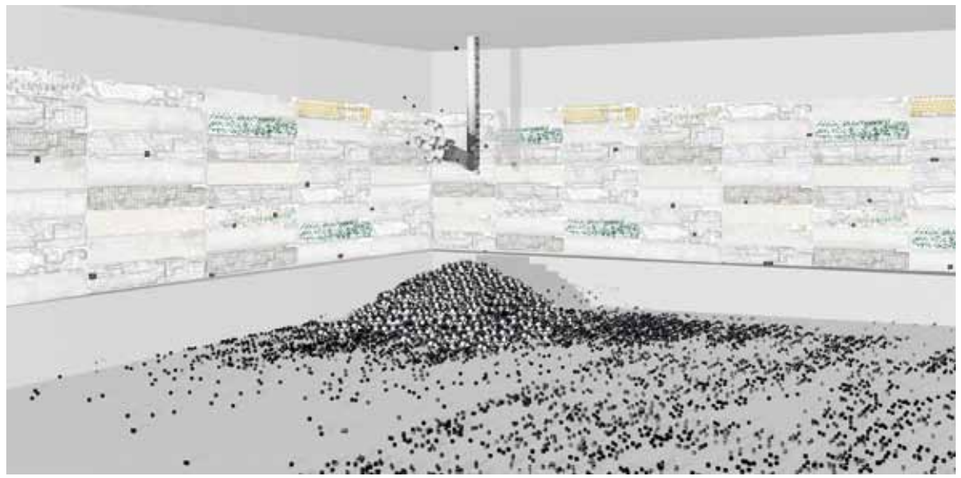
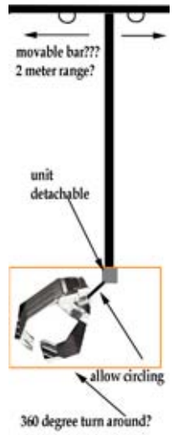
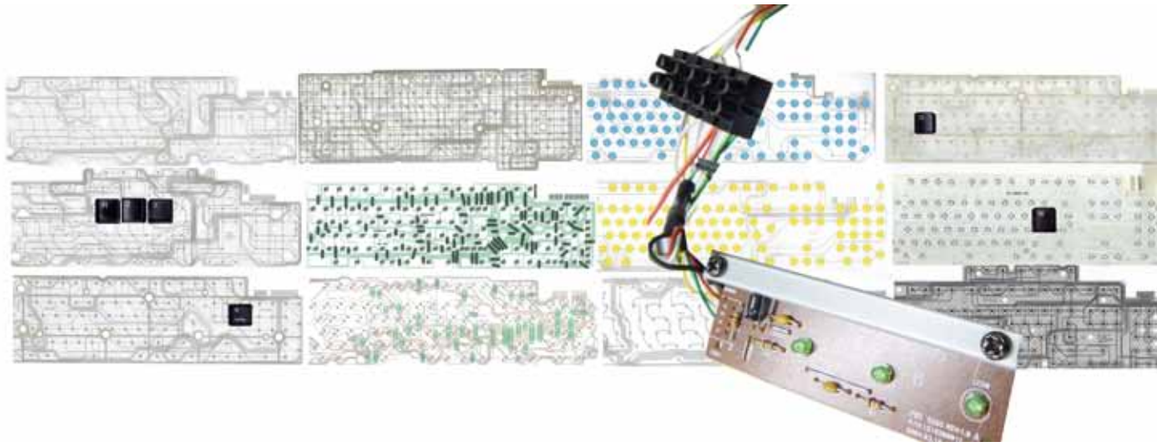
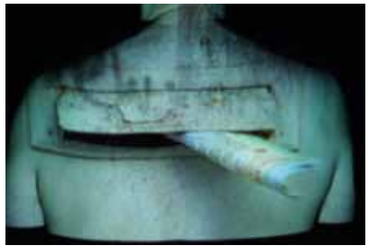
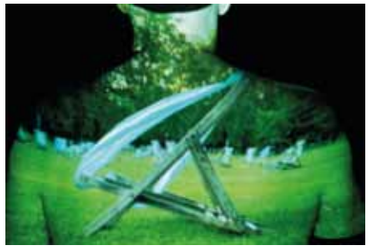


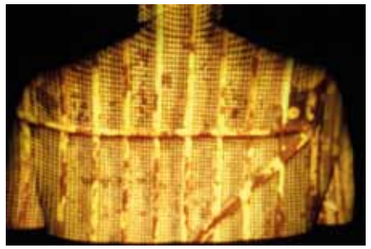

movable bar???
2 meter range?
unit
detachable
allow circling
360 degree turn around?




TELEPHONE





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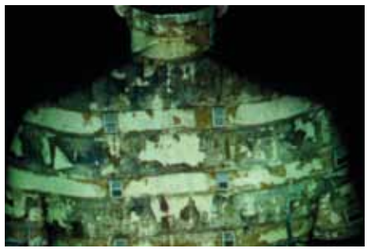
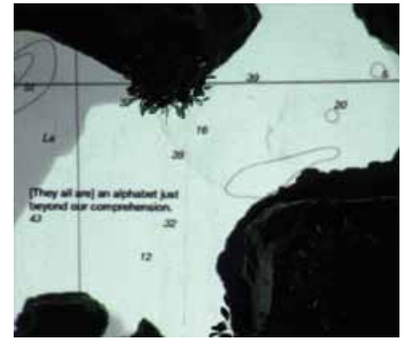
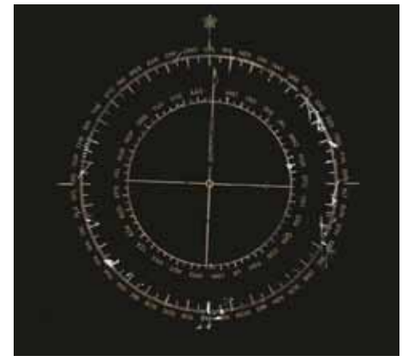


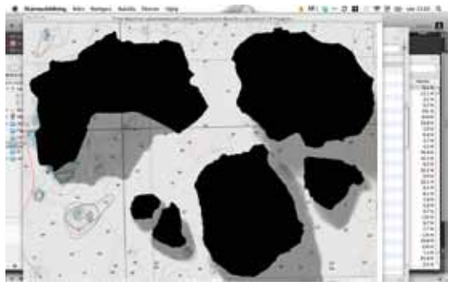

FUDGE

Photo: Per Mannberg/Bonniers Konsthall

Photo: Per Mannberg/Bonniers Konsthall







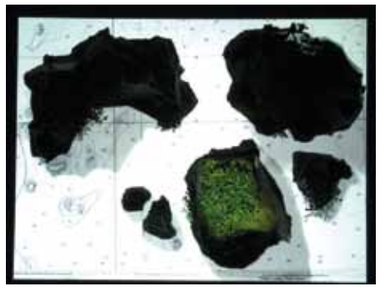
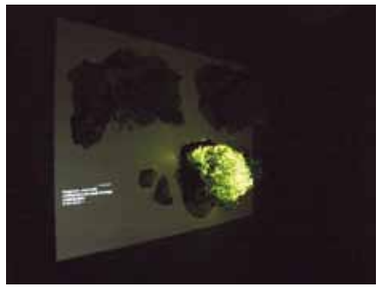


Photo: Per Mannberg/Bonniers Konsthall



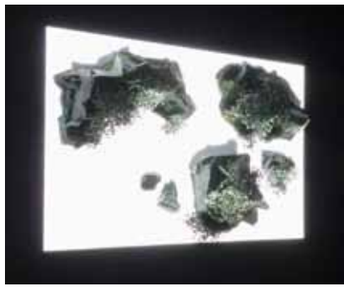


Photo: Per Mannberg/Bonniers Konsthall

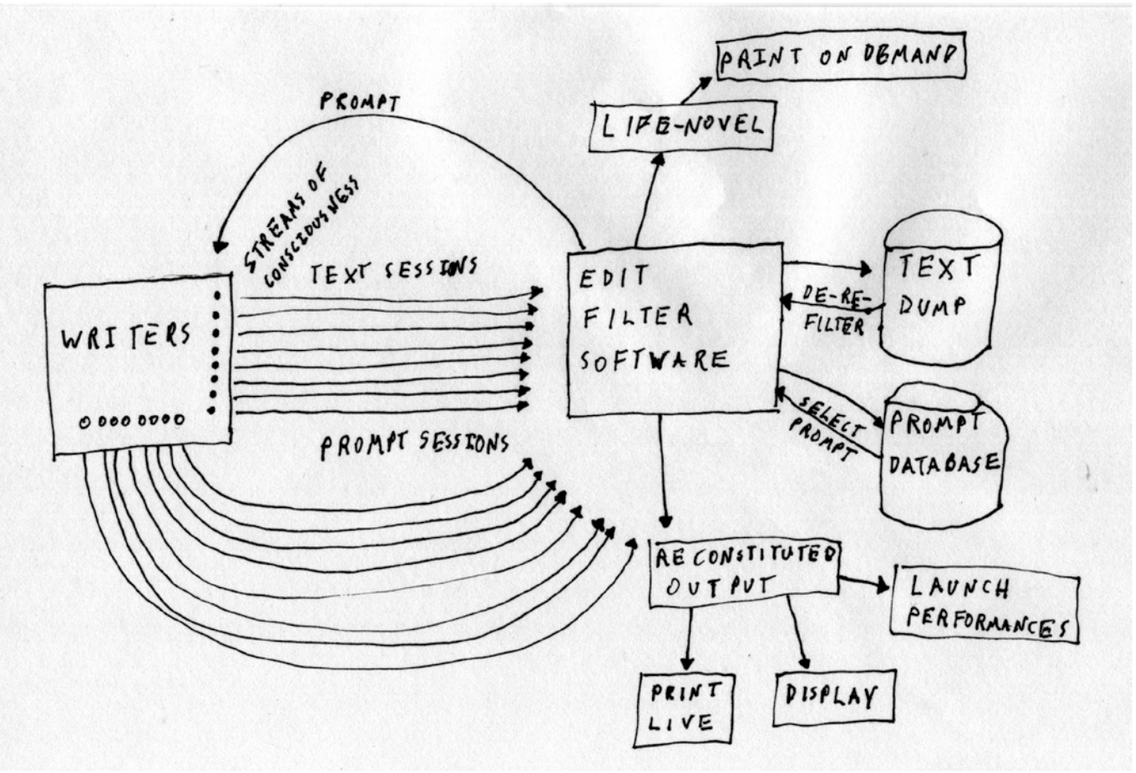
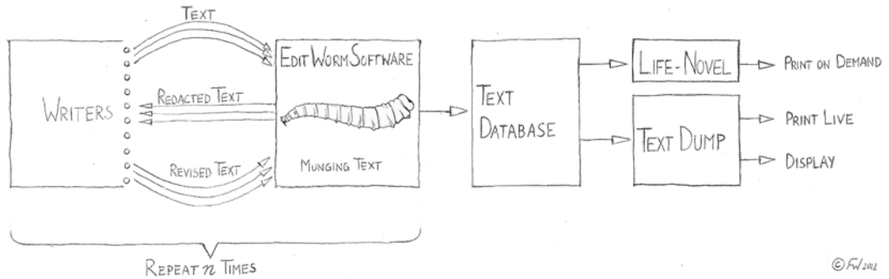


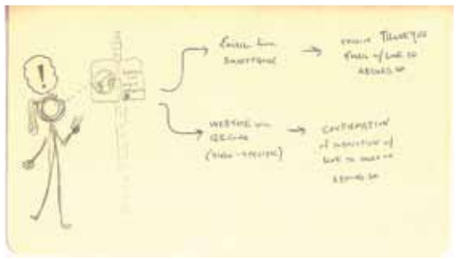
Fig. 485.

```
#  ℜ
def roundrobin(chunks):
    chunk = random.choice(chunks)
    chunk.selected = True
    return chunk.text
```

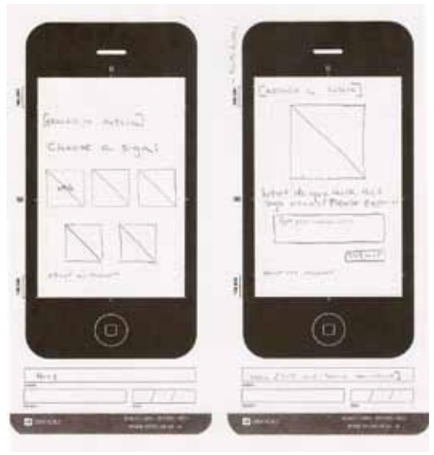
```
class Round(Base):
    __tablename__ = 'rounds'

    id = Column(Integer, primary_key=True)
    text_out = Column(UnicodeText)
    author_id = Column(Integer, ForeignKey('users.id'))
    author = relation(User, backref=backref('rounds', order_by=id))
    session_id = Column(Integer, ForeignKey('sessions.id'))
    session = relation(Session, backref=backref('rounds', order_by=id))
    round_index = Column(Integer)
    length_seconds = Column(Integer)
    algorithm = Column(String)
```






STORE
FOR REN
212-420-038
EXPLAIN THIS SIGN:
THREE@ABSURD.SO



‘Everyone carries a shadow… and the less it is embodied
in the individual's conscious life, the blacker and denser it is.’

Jung, C.G.,1938. *Psychology and Religion*. New Haven: Yale University Press.

DONNA LEISHMAN | Borderline

Mos Def – I against I
I-ya
I against I
Flesh of my flesh
And mind of my mind
Two of a kind but one won't survive

…if you don't learn how to be alone, you'll always be lonely – Turkle.

vive *[x16]*

Plastikman-Ask yourself
I hear everything.
Those aren't voices in your head.
They're just the echoes of your indecision.
Don't ask me.
Ask Yourself.

I know everything.
Those thoughts going around in your head.
Trying to figure out what's correct, and what's wrong.
Don't ask me.
Ask yourself.

I feel everything.
Was it me, us, or them?
Or was it you?
Don't ask me.
Ask yourself.

I am... everything.
Why listen to me?
I'm just a voice inside your head.
I can't help you.
Help yourself.

Chemical Brothers ft. Klaxons
It never stops, and no one is stopping.

Theodore Roethke –In a Dark Time
In a dark time, the eye begins to see,
I meet my shadow in the deepening shade;
I hear my echo in the echoing wood–
A lord of nature weeping to a tree,
I live between the heron and the wren,
Beasts of the hill and serpents of the den

Tiga, Brothers
Well it's true you're a bit like me
But you're a lot like you
And I'm not like you
And you're not like me
But I'm the same as you
And you're the same as me
And you're a lot like you
But you're a bit like me
a bit like me
a lot like you
t like you

DISSECTION TABLE (#1)
SCALE 1/2" = 12" (APPROX. 1MM : 40MM)

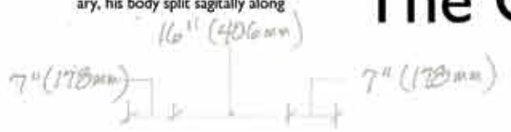
30" (762mm)

I repeated the experiment with the arc

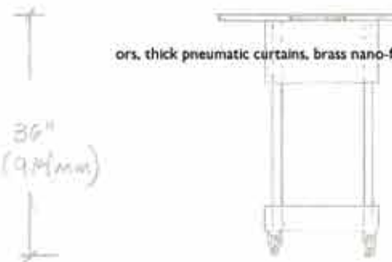
the gift of the trick
synthetic enhancements for being observed

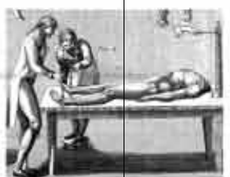
The Operature

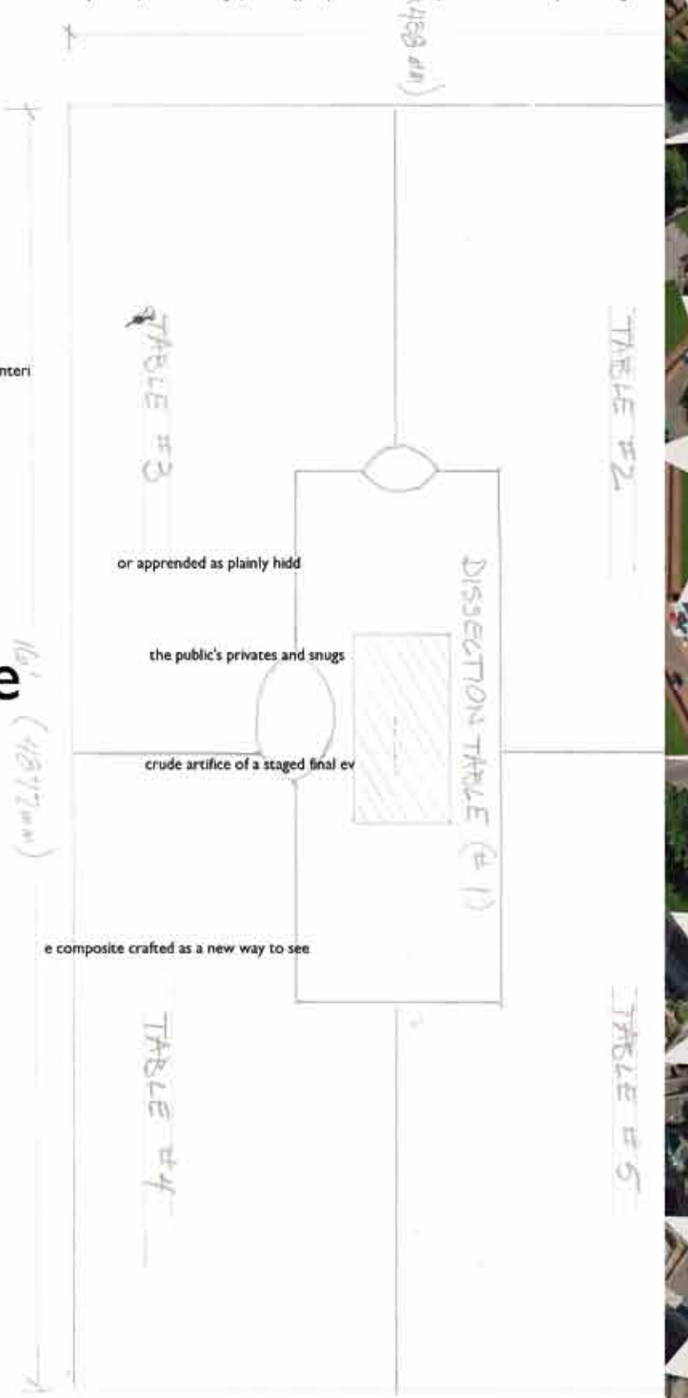
ary, his body split sagitally along



ors, thick pneumatic curtains, brass nano-fixtures







ture, the brightly colorde interi

or apprended as plainly hidd

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crude artifice of a staged final ev

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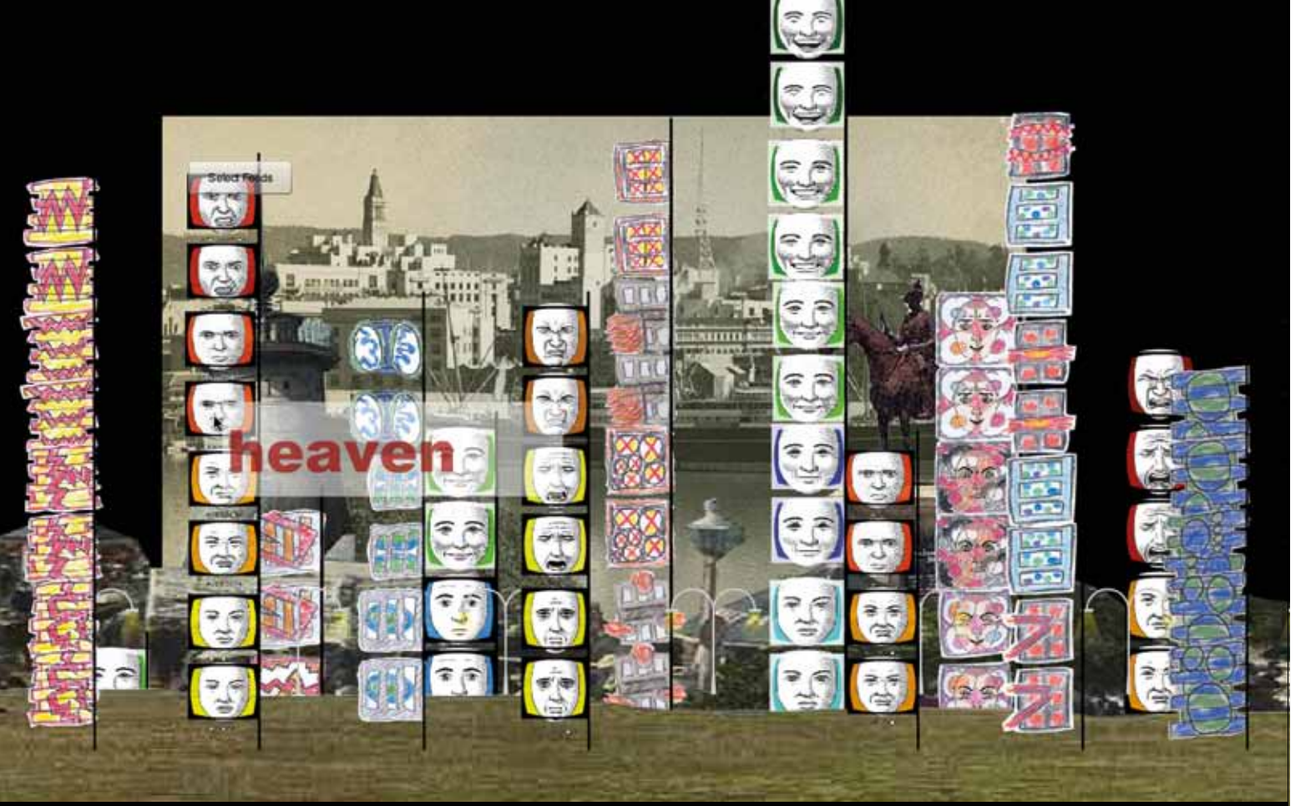
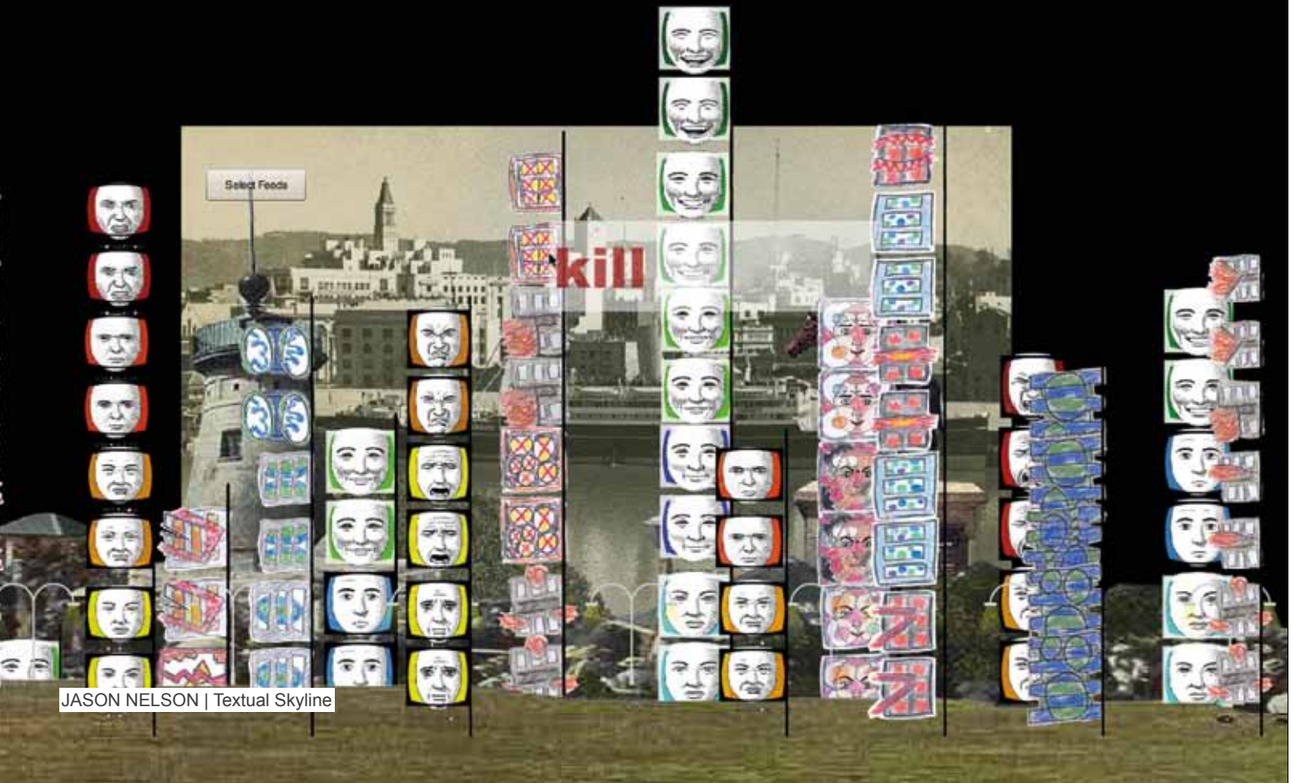
among the botanical lvs
and surgical tables





JASON NELSON | Textual Skyline

RHIZOMIC ETHNOGRAPHIES

RHIZOMES, LINES AND NOMADS: DOING FIELDWORK WITH CREATIVE NETWORKED COMMUNITIES

Penny Travlou

> What a grand day – great people visiting (over 350 of them), excellent work to show & brilliant space – very proud of the larger community we are part of :-) (Marc Garrett, February 26 2012, Facebook)

This short narrative of my ethnographic journey begins from its end: the day that I formally announced its completion, after twelve months of a nomadic peregrination at different localities across Europe and the trans-global spatialities of the Internet. That was the day of the opening of the new gallery space of Furtherfield, at Finsbury Park, London. Furtherfield has been my first ethnographic case study for this project or, to frame it better, my very first encounter with the subject of my ethnography: processes of social formation. This study, part of the HERA -funded project Electronic Literature as a Model of Creativity and Innovation in Practice (ELMCIP), asks how creative communities form within transnational and transcultural contexts and a globalised and distributed communications environment.

A text of interwoven lines

My intention here is to unravel the story of my ethnography and to (begin to) give shape to the volume of field-notes created during fieldwork. As the word 'text' (from the Latin *texus*: 'to weave') implies, the making of the story – any story – is a 'weaving' process. I am not referring to the grammatology and materiality of the document, its letters, sentences and paragraphs put together, but to the multiple stories, voices and geographies that are woven together in the knots of the text-as-cloth (c.f. Ingold 2010).

It is on purpose, therefore, that, in its attempt to retrace the lines of my fieldwork and their interconnections, this text eschews a linear structure. It is a patchwork, where fragments of field notes, nodes where people and projects meet, are stitched together to create a cloth, that in turn attempts to recreate a journey.

Quilts, bodies and the making of community

As I am writing this an exhibition I happened to visit, a couple of years ago in Atlanta, comes to mind; of quilts from the Mississippi Delta in the US, stitched together, cloth-by-cloth, by African-American women in the Depression Era. Each tiny piece of cloth was stitched at a specific place on the quilt to form a pattern; each pattern was about a story; each story was told by one of the women; and all the women together made a community. The creativity involved in the making of the quilt was one of the ways these women performed (and reaffirmed) their community. At the particular time of being together and making this quilt, these women formed a community of quilt-makers sharing that specific process of creating an object.

The quilt was the voice – one of the voices – of these African -American women, a polyphonic narrative of these women's presence within their communities. It was the story-telling of their life as African-Americans, as poor, as women. Their story had a material entity, an affective presence.

James Leach concludes his ethnographic text, *Creative Land*, with the statement that 'process is a creative land […] process is already places and persons|' and 'creativity exists as a relationship with other people.' (Leach 2003: 216, 218). The quilts I saw in Atlanta are precisely such a creative land, objects in the making, a process of places (the Mississippi Delta) and people (the women who made them, the other people whose stories, entangled with these women's lives, were woven as colourful patches into the cloth). They are, also, the relationships of these people with a myriad of other things: small cloths cut from old garments, dresses etc., each with its own fascinating history, scissors and needles manipulated by dexterous hands, the beds on which the quilts were draped, the bodies they covered…

Similarly, my ethnography is about a creative land, a process of places and people and things. It is about creativity as a synergy of spaces, practices and artefacts, interlinked in such a manner that their singularity(-ies) form an assemblage (Deleuze & Guattari 1993). Spaces are lived by bodies; practices are performed by bodies; artefacts are made by bodies. The connecting commonality here is, therefore, a community of bodies – people who make this assemblage happen.

In the opening quote of this text, Marc Garrett, Furtherfield*'s* co-founder, enthuses about the creative land of the Furtherfield community of people, space and artefacts. This community assembles, binds and fuses together through cultural practices and creative processes. James Leach's (2003) suggestion that cultural practices of making new things can also 'create' individuals and bind them in social groups, 'creating' the community they inhabit' (after Biggs & Travlou, 2012 online) is topical here. Within Furtherfield I had the opportunity to witness the unfolding of creativity, 'emergent from and innate to the interactions of people.' (Biggs & Travlou 2012 online).

Ingold (2008) describes this deployment of creativity as:

> lines along which things continually come into being. Thus when I speak of the entanglement of things I mean this literally and precisely: not a network of connections but a meshwork of interwoven lines of growth and movement (Ingold 2008 online).

> Agency and becoming are immanent within assemblages of things and people. In other words, agency and becoming are dynamic qualities, innate whenever things and people come together. Creativity is, thus, understood as an emergent property of relations, of communities (Biggs & Travlou 2012 online).

What kind of methodological framework could best accommodate these insights on creativity as an emergent property of assemblages? How should I go about my fieldwork in a way that accorded with the dynamic and constantly shifting patterns of interconnection between the communities I was about to 'study'?

Rhizomic Ethnographies: following lines – inhabiting places

American anthropologist Dona Davis (2007) claims that, if scientific research is largely about testing hypotheses and predictability, ethnographic fieldwork is about happenstance and chance, no matter how sophisticated the research design. She concludes that '[M]uch that emerges as desirable or worthwhile in fieldwork is unsought, unanticipated or not predicted.' (Davis 2007: 3). Since 'the field is not lab' (ibid. 3), therefore, I had to recognise that serendipity is crucial in this kind of study.

Hazan and Hertzog, editors of *Serendipity in Anthropological Research*, argue that 'besides being a major focus for research in the anthropological tradition, nomadism is a state of mind central to the understanding of the ethnographic enterprise' (Hazan & Hertzog 2012: 1). Following the thread of their reflection on the nomadic character of ethnographic research, they suggest that ethnographers, like nomads, are in a continual adaptation to a changing world. In this world ethnographers encounter incessant changes which

> require them to be physically mobile, mentally alert, emotionally resilient and socially agile; [they] must be prepared to modify and revise her theoretical standpoint time and again; and [they] must cope with the frequent unpredictable mutations in the articles of faith as to the desirable management of anthropological knowledge (Hazan & Herzog 2012: 1).

These writings suggest that ethnographic research cannot be bound by prescribed formulae of 'writing culture' (ethno–graphy); this uncontainability is so even if we begin fieldwork with such a formula in mind. During fieldwork, the ethnographer is challenged to reinvent fieldwork practices, research methods and theoretical orientations. In the words of Hazan and Hertzog, it is the nomadic force that drives ethnographers from 'one idea to another, transcends boundaries, shifts involvements and transforms commitments until it is finally arrested and shaped in the published text' (2012: 2). Like Davis before them, they also conclude that ethnographic research – inescapably nomadic – is an 'evidence-based form of creating and applying novel explanations to new observations' and that this 'application of novelty' relies on serendipity and discovery (Hazan & Hertzog 2012: 2).

Spatiality, 'aspatiality' and methodological challenges

My research followed the contours of serendipity; of chance and happenstance. My initial idea, at the start of my ethnographic fieldwork, was that I was about to embark on a study of networked 'online' communities. In many ways this did happen: online communities constituted a major focus of my research. Already in the first few weeks in the field, however, I realised that this study would take me on a journey across a challenging, *physical*-cum-*virtual* landscape, shaped by fabric-like topologies, 'a meshwork of interwoven lines of growth and movement.' (Ingold 2008 online).

My original preconceptions are recorded in a recent paper, co-authored with Simon Biggs, in which I described the methodological framework of my research, referring to its various parameters which would then shape my ethnography (Biggs & Travlou 2012). The paper was written before I started my fieldwork in January 2011; and, thus, the methodological framework described therein was not yet informed by the experience of fieldwork.

The theme of my enquiry was how creative communities form within transnational and transcultural contexts, within a globalized and distributed communications environment. My starting point was to take a closer look at the key-concepts of the project, network, community, creativity, to make sense of their meaning(s) and develop an ethnographic framework that would permit me to draw conclusions. At that point, I had little knowledge of the communities, practices, artefacts and spaces, I was about to engage with.

A review of the relevant literature convinced me that the methodological approach best suited to my study would be beyond the pale of traditional ethnography. I was about to study communities assembling between physical and online space(s), in 'transnational' (beyond borders) and 'transcultural' (hybrid) locations.

The very 'inbetweeness' of these communities presented me with methodological challenges. For instance, what kind(s) of ethnography could I use to approach communities such as those assembling on the Internet? Since online communities are not defined by physical boundaries, we often conceptualise such communities as being 'aspatial'. This inference is supported by the claim – often made by symbolic anthropologists – that a community is the result of 'boundary construction through identity and shared systems of meaning' (Cohen, qtd. in Guimarães 2005: 146). This argument places a great deal of emphasis on the spatiality of community and, thus, to ethnography's role as a methodology not only for deciphering symbolic codes and meanings, but also for mapping territoriality and the physical presence of the community.

The claim that online communities are aterritorial has raised a heated academic debate, particularly within anthropological circles, since, followed to its ultimate consequences, this claim questions the very reality of online communities. As Anne Beaulieu argues, the lack of 'real' spatial (and face-to-face) relationships causes some anthropologists to consider online communities, enacted on the Internet, as 'illusory' (Beaulieu 2004).

Recent ethnographic studies of online communities (e.g. Turkle 1995; Miller 2000; Hine 2000; Beaulieu 2004) have greatly extended the remit of ethnography and demonstrated that online communities are as 'real' as any other. These studies, nevertheless, continue to regard online communities as 'aspatial'. For reasons that I am explaining below, I now consider this notion of 'aspatiality' as fallacious.

I began my fieldwork with such a notion in mind. I, too, believed that I was about to embark on a study of communities devoid of physical boundaries, non-located at geographical territories (which is in many ways true), and that these communities were a radically different kind of assemblage than the spatially situated communities of earlier ethnographies. However, my observations soon suggested that the communities I was interacting with had various levels of territoriality immanent within them and extending around them. The communities of my fieldwork were not entirely 'online'; they existed in-between – and across – virtual and physical space.

Whether online communities are entirely independent of, and separate from, physical space formed the theme of many debates at a workshop on digital ethnography I attended in September 2011 in Cava de' Tirreni, Italy. Many workshop participants believed that the 'aspatial' character of online communities place them in an entirely different stratosphere to communities that exist in physical (i.e. construed as 'real') space. I was intrigued by the arguments of one of the keynote speakers, Nathan Jurgenson, an American social media theorist. Nathan produced a passionate and forceful critique of the 'digital-dualist' assumption underlying the notion that online and physical space do not meet.

Nathan Jurgenson's critique accorded well with my own experiences. From an early stage in my fieldwork, I realized that, first, the communities I was studying were located in-between (and across) virtual and physical space and, second, that these two designations of space, virtual and physical, were inter-dependent, closely implicated and impossible to disentangle. Most importantly, these communities moved across space of any designation: across the boundaries of the online and the physical, and also across the boundaries of contemporary political geography, of states, supra-state polities and continents.

This insight was of particular relevance for me, as I was very interested in transcultural and transnational communities. Following Amit's (2000) argument about the shift of anthropology towards the investigation of multi-sited communities, I realised that I was interacting with, and looking at, fluid, mobile and mutable, dynamic communities that were in constant movement across space(s). John Urry's suggestion that spaces can (also) be viewed as 'comprised of various materials, of objects and environments, that are intermittently in motion' (2007: 34), thus, attained a strong resonance within my study. In the latter, software, code, online networks, communities, are precisely such constituents of space in motion: moving along their haphazardly intersecting lines, they contain and become space.

Roots and Lines

My methodological framework, therefore, mutated along with the study, from its original formulation as an online, multi-sited ethnography to a journey along lines, 'along which things […] come into being.' (Ingold 2008 online). The first line for me to pursue may have been determined by the original study design, but the rest of the lines that guided my journey were discovered by chance. I followed lines as they came along, at each of their intersection with other lines, leading me to a journey across (a small part of) an extensive and highly ramified, rhizomic (root-like) network of people, concepts and machines.

My journey in this rhizomic network was guided by chance: at no stage of the journey did I know in advance who my other case studies would be: the second (*Art as Open Source*) and third (*Make-Shift*) case studies were lines that emerged – grew – out of Furtherfield, the first case study. Their very interconnectedness enabled me to see them not as separate case studies but as interlinked branches of the same entity, growing, and expanding, and intersecting with each other in a rhizomic manner. This is like a root with no clear beginning and end; what Deleuze and Guattari describe as being 'always in the middle, between things, interbeing, intermezzo' (1993: 25).

This rhizomic topology resists chronology and organisation. Instead, it affords a nomadic pattern of propagation, where cultural practices spread towards available new spaces through fissures and gaps, eroding what stands in its way. Any point of the rhizome can be connected with any other point, multiply, break and start up again on one of its old lines, or grow new lines. Tim Ingold (2011) evokes a (seemingly) similar topology of interconnectedness and contingency when he refers to 'wayfaring' to describe how we live along lines (and not at places). We humans, as wayfarers, he argues, have no specific destination. But where one line meets another there is somewhere further to go, and, thus, we move constantly along those lines, that lead us from place to place. In other words, we inhabit a 'meshwork' of lines caught up with other lines (Ingold 2007: 80).

As a (cultural) geographer, I am intrigued by the ways in which both rhizomes and meshworks open up new ways to conceptualise spatiality as bodily practice. When people walk through, around, to and from every line within a meshwork, for instance, they leave a trail. Those trails entwine with, and become bound to each other. Lines are places; trails are movement; 'places, […] are delineated by movement.' (Ingold 2011: 149).

And so with the meshwork of my fieldwork... I started in January 2011 at Furtherfield Gallery, London. During my time there, I was introduced to my second case study (line): *Art is Open Source* – an Italian duo who were resident artists at the Furtherfield Gallery. My third case study (again a line) started from an apparently separate line: I was introduced to the Make-Shift community through my colleague Simon Biggs. However, Helen Varley Jamieson, one of the cyberformers and founders of Make-Shift, was a former resident artist at Furtherfield, a regular contributor to the Furtherfield blog, and friends with Salvatore Iaconesi and Oriana Persico from Art is Open Source. Salvatore, Oriana and Helen were all part of the broader Furtherfield community. On some occasions, Helen's nomadic trail met with those of Salvatore's and Oriana's in physical space, at geographical locations (e.g. conferences, festivals etc.); other times they were all meeting online on NetBehaviour, an online mailing list for networked artists (see below). Another line/connector/network thus emerged, that linked all the case studies together. By that stage, the term 'case studies' had become redundant; these were really interconnected lines within a greater 'meshwork', a rhizome.

How, then, to follow this rhizome? In his article on '*multi-sited ethnography*' (1995), George Marcus prescribes five steps that enable a researcher to 'follow a community':

1. Follow the artefact (e.g. artworks, performances, installations);
2. Follow the metaphor (signs, symbols and metaphors that guide the ethnography);
3. Follow the story/narrative (comparison of stories with fieldwork notes from observation);
4. Follow the life/biography (gather individual stories/experiences);
5. Follow the conflict (if any between transnational communities, e.g. copyright laws).

Taking Marcus' methodological framework a step further, I added a sixth stage, that of following the rhizome wherein artefacts, metaphors, stories, lives and conflicts nest.

Following the rhizome is a succession of detours. I would start to follow one line and then another one would appear and cause me to divert from my original path. At first, I was quite apprehensive about these diversions, until I realised that these allowed me to map-out, as it were, a greater part of the rhizomatic network I was 'studying' – a network of formidable dimensions, which, as it was becoming increasingly more apparent, extended well beyond the few 'case studies'. While at Futherfield Gallery, for instance, Salvatore and Oriana were 'on a mission' to spread the word about their project REFF (Roma Europa Fake Factory), for which they were organising workshops at different universities across London (e.g. University of Westminster, South Bank University, etc.) and autonomous social spaces (e.g. the Really Free School squat at the Black Horse Pub). Serendipitously, the original line of my study (Furtherfield) was branching out to another line (AOS), which in its turn was branching into further lines, intersecting and intertwining, together the rhizome: dynamic, evolving, changing and self-constituting over time.

Movement

Lines, paths, rhizomes entail movement. Tim Ingold, in his text *Against Space: place, movement, knowledge*, suggests that we should look at our places as 'knots where the threads from which they are tied are lines of wayfaring', where lines trail beyond the knot 'only to become caught up with other lines in other places' (2011: 149). For him, places are becoming through movement

along paths: lines connecting place A and place B. Most intriguingly, when a 'person moves he becomes a line' and as 'the wayfarer is constantly on the move […] he is the movement' (2011: 149, 150).

Ingold's insights have helped me to appreciate this state of wayfaring within the meshwork of lines. The communities/collectives/networks I worked with were constantly on the move, along paths that I had also just begun to follow. As I was partaking in the making of the rhizome, we were all lines and movement. Our movement was fluid, haphazard, nomadic, taking us from London to Cava de' Tirreni, from there to Turin, and later, (after my fieldwork had officially ended while the rhizome continued to grow), to Rome and Berlin.

Online Communities

As I was journeying along these nomadic itineraries, I was also tracing lines in virtual space: visiting websites, online forums, social networks, to follow and communicate with the communities of my study. During the year of my fieldwork I passed a great amount of time travelling in NetBehaviour, a ''networked artists' community for networked distributed creativity' (www.netbehaviour.org). Netbehaviour describes itself as

> an open email list community for sharing ideas, posting events & opportunities in the area of networked distributed creativity and facilitating collaborations between artists, academics, soft groups, writers, code geeks, curators, independent thinkers, relationalists, activists, networkers, net mutualists, new media types, new media performers, net sufis, non nationalists (www.netbehaviour.org).

NetBehaviour is the online place where the wider digital community of Furtherfield comes together. From January 2011 to February 2012, I archived 8,317 messages on NetBehaviour. Many of these were to/from key people from the other interlinked lines of my research, AOS (Salvatore Iaconesi) and Make-Shift (Helen Varley Jamieson). These messages were, therefore, intersecting connectors and trails positioned, juxtaposed and interwoven with those in physical space.

Then, during my fieldwork with *Make-Shift* community, I worked both in the physical locations where the cyberformances (network performances) were taking place and in the online spaces where these performances were streamed. This streaming, and the interaction with audiences it enables, is a critical practice for *Make-Shift* : 'everything that happens in the houses is streamed to online audiences who can also contribute text chat visible on the interface to everyone throughout the event' (www.make-shift.net). In addition to following Helen Varley Jamieson at various physical locations of her cyberformance, I also attended many of her performances online, as a member of the online audience. This online attendance permitted me to follow Helen's nomadic journey to locations, cities and houses around the world (Turkey, Germany, France, Italy, New Zealand, India, the US). When I asked Helen how the *Make-Shift* community is constituted between (and across) online and offline spaces, she replied:

> We're building a *Make-Shift* community […]. So we have regularly people who come online and watch the show, to participate in the show and the people in the houses are participants making the show with us. And then we have a mailing list so you've been already on it (referring to my membership in the mailing list). So, we add people to the mailing list after the shows and hope that they would keep being involved and get feedback from.

To get a better grasp of the dynamic, constantly expanding community Make-Shift was becoming, online fieldwork was, therefore, indispensable.

For AOS, on the other hand, forming a community with people they involved in their projects, although appreciated, was not prioritised as one of their objectives. When I asked them how they felt about the Facebook group that was created by the participants of READ/WRITE REALITY, an intensive workshop on Ubiquitous Publishing organised in Cava de' Tirreni, Oriana Percico replied that:

> The community of Cava de' Tirreni is a good example of temporary community. […] Well I don't have any problem with this, but focusing on an objective, a goal, we have shared time very precisely, we didn't force people. For example, they did autonomously this group on Facebook, but we didn't ask them to do this because our goals were and is still always to give them tools. In this time, we were sharing a big experience, we really wanted it. We were there for five days. We chose to live together 24 hours. In that time, it was my family, it was not my community. It was my house, it was my time. And we did all together, we did everything together with them. So I have no problem, it was very clear… I mean in that moment we were assembling and no problem in disassembling.
>
> […] I don't want to build something which is out of my force… my energy, my goal, I mean something bigger than me you know (she laughs). Not a problem at all. The real point was that we wanted to give them a tool, our goal is that they use this for their own things. It was a community based on time, a specific time, a specific goal.

What was interesting to observe during the fieldwork, both online and offline, was that AOS were simultaneously members of various communities, as artists, educators, academics and activists. They were moving along numerous lines, meeting, collaborating, sharing knowledge and tools and, at the same time, making connections between disparate communities. Salvatore's and Oriana's activity, thus, was instrumental to the emergence of new communities (and networks), even if their intention was not the formation of those communities.

Furtherfield was the nodal place, where all lines of this journey meet, assemble, perhaps, in due course even disassemble. It was in Furtherfield Gallery where I met Salvatore and Oriana from AOS – an event that signaled the beginning of my nomadic journey.

Postscript

The text finishes with an introduction. I would like to introduce the three main lines (knots) of my fieldwork. For this matter, I would let the three 'case studies' introduce themselves:

Furtherfield

'The collaborative work of artists, programmers, writers, activists, musicians and thinkers who explore beyond traditional remits; dedicated to the creation, promotion, and criticism of adventurous digital/networked media art work for public viewing, experience and interaction. Developing imaginative strategies in a range of digital and terrestrial media contexts, Furtherfield develops global, contributory projects that facilitate art activity simultaneously on the Internet, the streets and public venues.' www.furtherfield.org

Art is Open Source (AOS)

Art is Open Source, an informal network promoting artistic, creative and critical practices in different parts of the world. www.artisopensource.net

Make-Shift

Make-Shift is a unique and intimate networked performance that speaks about the fragile connectivity of human and ecological relationships. Make-Shift is an ecologically aware house party with a difference. As well as experiencing the intimacy, viscerality and shared experience of a live performance event; local and online audiences participate in a call-and-response between people, landscape and culture to discuss the theme of 'disposability' in its broadest sense. www.make-shift.net

References

Amit, V. (2000) 'Introduction: constructing the field' in Amit, V. (ed.) *Constructing the field: ethnographic fieldwork in the contemporary world*. London: Routledge.

Beaulieu, A. (2004) 'Mediating ethnography: Objectivity and the making of ethnographies of the Internet' in *Social Epistemology*, 18 (2-3).

Biggs, S. & Travlou, P. (2012) 'Distributed Authorship and Creative Communities' *Dichtung Digital*, vol. 41 http://dichtung-digital.mewi.unibas.ch/

Davis, D. (2007) 'Science and Serendipity: Reflections on an Anthropological Career' *The 55th Annual Harrington Lecture*, 2 October 2007, The University of South Dakota.

Deleuze, G. & Guattari, F. (1993) *A Thousand Plateaus*. Minnesota: The University of Minnesota Press.

Guimarães, M. J. (2005) 'Doing Anthropology in Cyberspace: Fieldwork Boundaries and Social Environments' in C. Hine (ed.) *Virtual Methods. Issues in Social Research on the Internet*. London: Berg.

Hazan, H. & Hertzog, E. (2012) *Serendipity in Anthropological Research: The Nomadic Turn*. London: Ashgate.

Ingold, T. (2007) *Lines: A Brief History*. London: Routledge.

Ingold, T. (2008) 'Bringing Things to Life: Creative Entanglements in a World of Materials.' http://www.reallifemethods.ac.uk/events/vitalsigns/programme/documents/vital-signs-ingold-bringing-things-to-life.pdf

Ingold, T. (2010) 'Footprints through the weather-world: walking, breathing, knowing' *Journal of the Royal Anthropological Institute*, 2010 Special Issue: S121-S139.

Ingold, T. (2011) *Being Alive: Essays on Movement, Knowledge and Description*. London: Routledge.

Leach, J. (2003) *Creative Land: Place and Procreation on the Rai Coast of Papua New Guinea*. London: Berg.

Marcus, G. E. (1995) 'Ethnography in/of the world system: the emergence of multi-sited ethnography' in *Annual Review of Anthropology*, vol. 24:95-117.

Miller, D. (2000) *The Internet: an ethnographic approach*. London: Berg.

Turkle, S. (1995) *Life on the Screen*. New York: Touchstone.

Urry, J. (2007) *Mobilities*. London: Polity.

DIWO: DO IT WITH OTHERS – NO ECOLOGY WITHOUT SOCIAL ECOLOGY

Ruth Catlow & Marc Garrett

The acceleration of technological development in contemporary society has a direct impact on our everyday lives as our behaviours and relationships are modified via our interactions with digital technology. As artists, we have adapted to the complexities of contemporary information and communication systems, initiating different forms of creative, network production. At the same time we live with and respond to concerns about anthropogenic climate change and the economic crisis. As we explore the possibilities of creative agency that digital networks and social media offer, we need to ask ourselves about the role of artists in the larger conversation. What part do we play in the evolving techno-consumerist landscape which is shown to play on our desire for intimacy and community while actually isolating us from each other (Turkle 2011). Commercial interests control our channels of communication through their interfaces, infrastructures and contracts. As Geert Lovink says 'We see social media further accelerating the McLifestyle, while at the same time presenting itself as a channel to relieve the tension piling up in our comfort prisons.' (2012: 44).

Many contemporary artists who take the networks of the digital information age as their medium, work directly with the hardware, algorithms and databases of digital networks themselves and the systems of power that engage them. Inspired by network metaphors and processes, they also craft new forms of intervention, collaboration, participation and interaction (between human and other living beings, systems and machines) in the development of the meaning and aesthetics of their work. This develops in them a sensitivity or alertness to the diverse, world-forming properties of the art-tech imaginary: material, social and political. By sharing their processes and tools with artists, and audiences alike they hack and reclaim the contexts in which culture is created.

This essay draws on programmes initiated by Furtherfield, an online community, co-founded by the authors in 1997. Furtherfield also runs a public gallery and social space in the heart of Finsbury Park, North London. The authors are both artists and curators who have worked with others in networks since the mid 90s, as the Internet developed as a public space you could publish to; a platform for creation, distribution, remix, critique and resistance.

Here we outline two Furtherfield programmes in order to reflect on the ways in which collaborative networked practices are especially suited to engage these questions. Firstly the *DIWO (Do It With Others)* series (since 2007) of Email Art and co-curation projects that explored how de-centralised, co-creation processes in digital networks could (at once) facilitate artistic collaboration and disrupt dominant and constricting art-world systems. Secondly the *Media Art Ecologies* programme (since 2009) which, in the context of economic and environmental collapse, sets out to contribute to the construction of alternative infrastructures and visions of prosperity. We aim to show how collaboration and the distribution of creative capital was modeled through *DIWO* and underpinned the development of a series of projects, exhibitions and interventions that explore what form an ecological art might take in the network age.

In common with many other network-aware artists the authors are both originators and participants in experimental platforms

and infrastructures through processes of collaboration, participation, remix and context hacking. As artists working in network culture we work between individual, coordinated, collaborative and collective practices of expression, transmission and reception. These resonate with political and ethical questions about how people can best organise themselves now and in the future in the context of contemporary economic and environmental crisis.

Though this essay draws primarily on artistic and curatorial practices it also makes connections with the histories and theories that have informed its development: attending to the nature of co-evolving, interdependent entities (human and non-human) and conditions, for the healthy evolution and survival of our species (Bateson 1972); producing diverse (hierarchy dissolving) social ecologies that disarm systems of dominance (Bookchin 1991, 2004); and seeking new forms of prosperity, building social and community capital and resilience as an alternative to unsustainable economic growth (Bauwens 2005, Jackson 2009).

Contemporary critical practices in art, technology and social change

Furtherfield's mission is to explore, through creative and critical engagement, practices in art and technology where people are inspired and enabled to become active co-creators of their cultures and societies. We aim to co-create critical art contexts which connect with contemporary audiences providing innovative, engaging and inclusive digital and physical spaces for appreciating and participating in practices in art, technology and social change.

The following artworks, researched, commissioned and exhibited by Furtherfield this year, offer a range of practices exemplifying this approach. *A Crowded Apocalypse*[1] by IOCOSE deploys crowd-sourced workers in the production of staged, one-person protests (around the world) against collectively produced, but fictional, conspiracies. This is a net art project that exploits crowd sourcing tools to simulate a global conspiracy. The work exploits the fertility of network culture as a ground for conspiracy theories which, in common with many advertisements, are persuasive but are neither ultimately provable or irrefutable (Garrett 2012).

A series of distributed performances called *Make-Shift*, by Helen Varley Jamieson and Paula Crutchlow, is a collective narrative about the human role in environmental stresses, developed with participants who build props for the 'show' using all the plastic waste they have produced that day. Makeshift is an 'intimate networked performance that speaks about the fragile connectivity of human and ecological relationships. The performance takes place simultaneously in two separate houses that are connected through a specially designed online interface.'[2]

Moving Forest London 2012[3], initiated by AKA the Castle (coordinated by Shu Lea Cheang), employs the city of London as it prepares for the grand spectacle of the 2012 Olympic Games, expanding the last 12 minutes of Kurosawa's adaptation of Shakespeare's Macbeth 'Throne of Blood' (1957), with a prelude of 12 days, and durational performance of 6 acts in 12 hours. The Hexists (artists Rachel Baker and Kayle Brandon) perform Act 0 of this sonic performance saga, with *3 Keys – The River Oracle*, a game of chance and divination[4].

Other notable works in this vein include *Embroidered Digital Commons*[5] by Ele Carpenter; *Invisible Airs* and *Data Entry*[6] by Yoha; *Web2.0 Suicide Machine*[7] by _moddr_ and Fresco Gamba; *The Status Project*[8] by Heath Bunting; and *Tate a Tate*[9], an interventionist sound work by Platform, infiltrating one of the largest art brands of the nation using a series of audio artworks distributed to passengers on Thames River boats, to protest the ongoing sponsorship of Tate Modern exhibitions by British Petroleum. Also relevant is the realm of ludic digital art practices that facilitate new socially engaged aesthetics and values such as *Germination X*[10] by FO.AM and *Naked on Pluto*[11] by Dave Griffiths, Marloes de Valk, Aymeric Mansoux.

DIWO as an emancipatory collaborative art project

The term 'DIWO (Do It With Others)' was first defined in 2006 on Furtherfield's collaborative project *Rosalind – Upstart New Media Art Lexicon* (since 2004)[12]. It extended the DIY (Do It Yourself) ethos of early (self-proclaimed) 'net art heroes', who taught themselves to navigate the web and develop tactics that intervened in its developing cultures.

The word 'art' can conjure up a vision of objects in an art gallery, showroom or museum, that can be perceived as reinforcing the values and machinations of the victors of history as leisure objects for elite entertainment, distraction and/or decoration – or the narcissistic expression of an isolated self-regarding individual. *DIWO* was proposed as a contemporary way of collaborating and exploiting the advantages of living in the Internet age that connected with the many art worlds that diverge from the market of commoditised objects - a network enabled art practice, drawing on everyday experience of many connected, open and distributed creative beings.

DIWO formed as an Email Art project with an open-call to the email list Netbehaviour, on the 1st of February 2007. In an art world largely dominated by elite, closed networks and gatekeeping curators and gallerists, Mail Art has long been used by artists to bypass curatorial restrictions for an imaginative exchange on their own terms.

> Peers connect, communicate and collaborate, creating controversies, structures and a shared grass roots culture, through both digital online networks and physical environments. Strongly influenced by Mail Art projects of the 60s, 70s and 80s demonstrated by Fluxus artists' with a common disregard for the distinctions of 'high' and 'low' art and a disdain for what they saw as the elitist gate-keeping of the 'high' art world...[13]

The co-curated exhibition of every contribution opened at the beginning of March at HTTP Gallery[14] and every post to the list, until 1st April, was considered an artwork - or part of a larger, collective artwork – for the *DIWO* project. Participants worked 'across time zones and geographic and cultural distances with digital images, audio, text, code and software. They worked to create streams of art-data, art-surveillance, instructions and proposals in relay, producing multiple threads and mash-ups.' (Catlow & Garrett 2008).

> The purpose of mail art, an activity shared by many artists throughout the world, is to establish an aesthetical communication between artists and common people in every corner of the globe, to divulge their work outside the structures of the art market and outside the traditional venues and institutions: a free communication in which words and signs, texts and colours act like instruments for a direct and immediate interaction (Parmesani 1977).

So it made sense that the first *DIWO* project should be a mail art project that utilised email, enabled by the Internet; a public space

with which anyone with access to a computer and a telephone line could use to publish. Because an email could be distributed (with attachments or links) to the inboxes of anyone subscribed to the Netbehaviour email list, subscribers' inboxes became a distributed site of exhibition and collaborative art activity: such as correspondence, instruction, code poetry, software experiments, remote choreography, remixing and tool sharing.

This and later *DIWO* projects used both email and snail-mail and (in line with the Mail Art tradition) undertook the challenge of exhibiting every contribution in a gallery setting.

The *DIWO Email* art project was liberally interspersed with off-topic discussions, tangents and conversational splurges, so one challenge for the co-curators was to reveal the currents of meaning and the emerging themes within the torrents of different kinds of data, processes and behaviour. Another challenge was to find a way to convey the insider's – that is the sender's and the recipient's – experience of the work. These works were made with a collective recipient in mind; subscribers to the Netbehaviour mailing list. This is a diverse group of people; artists, musicians, poets, thinkers and programmers (ranging from new-comers to old-hands) with varying familiarity with and interest in different aspects of netiquette and the rules of exchange and collaboration. This is reflected in the range of approaches, interactions and content produced.

In a number of important ways the email inbox guarantees a particular kind of freedom for the *DIWO* art context, as distinct from the exchange facilitated by the ubiquitous sociability, 'sharing' and 'friendship' offered by contemporary social media. Facebook, Myspace, Google+, etc, provide interfaces that are designed to elicit commercially valuable meta-data from their users. They are centrally controlled, designed to attract and gather the attention of its users in one place in order to monitor, process and interpret social behaviour and feed it to advertisers. As demonstrated during the disturbances of the Summer of 2011, these social media are an extension of the Panoptican and can also become tools of state surveillance and punishment as Terry Balson discovered on being detained for two years after being found guilty of setting up a Facebook page in order to encourage people to riot (BBC News 2012).

The *DIWO Email* Art and co-curation project is fully described and documented elsewhere[15] but it is outlined here as it gives an example of how our networked communities may intersect with everyday experience and with mainstream art worlds while also creating their own art contexts. We may be playful, critical, political and may work as possible co-creators with all the materials (stuff, ideas, processes, entities – beings and institutions – and environments) of life. This *DIWO* approach provides the fundamental ethos for the Furtherfield Media Art Ecologies programme.

Media Art Ecologies

Furtherfield's Media Art Ecologies programme (since 2009) brings together artists and activists, thinkers and doers from a wider community, whose practices address the interrelation of technological and natural processes: beings and things, individuals and multitudes, matter and patterns. These people take an ecological approach that challenges growth economics and techno-consumerism and attends to the nature of co-evolving, interdependent entities and conditions. They activate networks (digital, social, physical) to work with ecological themes and free and open processes.

The programme has included exhibitions such as *Feral Trade Café* by Kate Rich and *If Not You Not Me* by Annie Abrahams, an art world intervention by the authors *We Won't Fly For Art* and workshop programmes such as *Zero Dollar Laptop* workshops (in partnership with Access Space in Sheffield). It has supported research projects such as *Telematic Dining* by Pollie Barden and developmental artist residencies, such as *Make-Shift* by Helen Varley Jamieson and Paula Crutchlow. These projects and practices have a number of things in common:

- They work with the metaphors, tools, cultures and processes of networked culture in the context of environmental collapse;
- They are led by artistic sensibilities (incorporating but not governed by utilitarian or theoretical concerns);
- They generate unruly and provocative relationships between symbolic meanings and material effects;
- They are metalogues – their content and their structures are in a conversation with each other, expounding and resonating with their subjects. Their ends and means are well aligned.[16] (Bateson 1972, Catlow 2012).

Why Media Art Ecologies now?

Through the Internet we all now have access to data about historic and contemporary carbon emissions. We also find visualisations of this data that provide concise and accessible graphical arguments for thinking, feeling and acting in a coordinated way at this historical moment [17] [18].

Data shows an exponential rise in global carbon emissions since the 1850s, starting with the UK. UK carbon emissions have dropped as a percentage of global emissions by region (CDIAC 2010). At the same time the quantity of carbon dioxide emitted by the UK has steadily increased since the start of the industrial revolution to annual levels now higher than 500 million tonnes (Marland, Boden & Andres 2008). This data shows how successful the UK was, during the industrial revolution, at spreading the production methods that would turn out to promote a model of sole reliance on economic growth and fossil fuels. The logic and infrastructures of capitalism are now collapsing in tandem with the environment (Jackson 2009). At the same time networked technologies and behaviours are proliferating. Social and economic transactions take place at increased speed but our existing economic and social models are unsustainable and the consequences of continuing along the current path appear catastrophic for the human species (Jackson 2009). This is a critical moment to reflect on how the technologies we invent and distribute will form our future world.

Michel Bauwens, of the Foundation for Peer to Peer Alternatives, works with a network of theorists, activists, scientists and philosophers to develop ideas and processes to move beyond the pure logic of economic growth[19]. He observes that by transposing what has been learned by sharing the production and use of immaterial goods, such as software, with strategies for developing sharing in other productive modes, the community comes to own its own innovations, rather than corporations. This puts peer production at the core of civil society. The fabrication laboratory or 'fab lab' system, developed at MIT in collaboration with the Grassroots Invention Group and the Center for Bits and Atoms, offers an example; a small-scale workshop that facilitates personal fabrication of objects including technology-enabled products normally associated with mass production. The lab comprises a collection of computer controlled tools that can work at different scales with various materials. Early work on

the Open Source car shows how open, distributed design and manufacturing points to a possible end of patenting and built in obsolescence; constituent principles of our unsustainable consumer-based society (Bauwens 2012).

> [Bauwens] recognises that peer to peer production is currently dependent on capitalism (companies such as IBM invest huge percentages of their budgets into the development of Free and Open Source Software) but observes that history suggests a process whereby it might be possible to break free from this embrace. He suggests that by breaking the Free Software orthodoxy it would be possible to build a system of guild communities to support the expansion of mission oriented, benefit-driven co-ops whose innovations are only shared freely with people contributing to the commons. In the transition to intrinsically motivated, mass production of the commons, for-profit companies would pay to benefit from these innovations (Catlow 2011).

A peer to peer infrastructure requires the following set of political, practical, social, ethical and cultural qualities: distribution of governance and access to the productive tools that comprise the 'fixed' capital of the age (e.g. computing devices); information and communication systems which allow for autonomous communication in many media (text, image, sound) between cooperating agents; software for autonomous global cooperation (wikis, blogs etc); legal infrastructure that enables the creation and protection of use value and, crucially to Bauwens's P2P alternatives project, protects it from private appropriation; and, finally, the mass diffusion of human intellect through interaction with different ways of feeling, being, knowing and exposure to different value constellations (Bauwens 2005).

These developments in peer to peer culture provide a backdrop to the projects presented as part of the Media Art Ecologies programme which, in turn, proposes that a focus on the networked cultures in which the work is produced, supports ecological ways of thinking, privileging attention to complex and dynamic interaction, connectedness and interplay between artist viewer/participant and distributed materials. Its projects have been developed within independent communities of artists, technologists and activists, theorists and practitioners centered around Furtherfield in London (and internationally, online), Cube Microplex in Bristol and Access Space in Sheffield. They identify the simultaneous collapse of the financial markets and the natural environment as intrinsically linked with human uses of, and relationships with, technology. They take contemporary cultural infrastructures (institutional and technical), their systems and protocols, as the materials and context for artistic production in the form of critical play, investigation and manipulation. This work, at the intersection of artistic and technical cultures, generates alternative spaces and new perspectives; alternative to those produced by (on the one hand) established 'high' art-world markets and institutions and (on the other) the network of ubiquitous user owned devices and social apps. These practices play within and across contemporary networks (digital, social and physical), disrupting business as usual and the embedded habits and attitudes of techno-consumerism.

An exhibition that was also a working café

We will end this essay by describing an early project developed as part of this programme, *Feral Trade Café*[20] by Kate Rich, an exhibition that was also a working café. Feral Trade Café served food and drink traded over social networks for 8 weeks in the Summer of 2009 and exhibited a retrospective display of Feral Trade goods alongside ingredient transit maps, video, bespoke food packaging and other artifacts from the Feral Trade network.

Since 2003 participants in the project (usually travelling artists and curators) have acted as couriers, carrying edible produce around the world with them on trips they are taking anyway and delivering them to depots (friends' and colleagues' flats or work places), mostly independent art venues in Europe and North America. Rich has crafted a database through which couriers can log their journeys, tracking the details of sources, shipping and handling for all groceries in the network 'with a micro -attention usually paid to ingredient listings.' (Catlow 2009). This database[21] is at the heart of the artwork, with special attention given to the day to day challenges and obstacles met in its distribution – tracking the on-the-fly street level tactics employed, out of necessity, by a distribution network with no staff, vehicles, storage facilities or business plan.

> Courier Report FER-1491 DISPATCHED: 13/05/09 DELIVERED: 15/05/09 - ali jones spent a few hours trying to start a car using various techniques. eventually got it moving with a push start with the help of a stranger who was leaving behind a night of print-making.convoyed to cube where friend took parcel in her van while i parked dubious car at garage for fixing.[22] (Feral Trade Courier 2009).

The café stocked and served a selection of Feral Trade products from a menu including coffee from El Salvador, hot chocolate from Mexico and sweets from Montenegro, as well as locally sourced bread, cake, vegetables and herbs. Diverse diners – local residents and long-distance lorry drivers (from Poland and Germany) – were served their food along with waybills (drawing information from the database) documenting the socially facilitated transit of goods to their plate.

The invitation to the exhibition promised visitors a convivial setting from which to 'contemplate broader changes to our climate and economies, where conventional supply chains (for food delivery and cultural funding) could go belly up.' The café provided a local trading station and depot for the Feral Trade network, and a meeting place for local community food activists for research and discussion. It's worth noting that a year later a Government Spending Review announced a cut of nearly 30% to the Arts Council of England's budget (BBC News 2010). Two years later global food prices were up by over 40% and set to rise another 30% in the next 10 years (Neate 2011). A number of small new projects continue to develop from meetings between the gallery community and local community activist groups working on sustainability issues.

The materials and methods employed by this artwork, that is also a functioning café, are diverse and non-standard. The café is not scaleable and generates no jobs or surplus, let alone profit. It may build 'social capital', what Bordieu defines as a form of capital 'made up of social obligations ('connections') which is convertible in certain conditions into economic capital and may be institutionalised in the form of a title of nobility.' (Bordieu 1986). However, it is uncertain whether this will apply to Rich as any 'nobility' she might acquire is undermined by her purposeful maintenance of the project's ambiguous status as an artistic project.

For this essay we present *Feral Trade Café* alongside Bauwens' proposal for alternative P2P infrastructures. We propose that while the work is not a design, formula or practical, alternative business model (either for an artwork or a café) for mass adoption, it can be considered an ecological system for 'mass diffusion of intellect' (Bauwens 2005). Interaction with the project engages participants in different ways of sensing, operating and valuing the world. It is a most inefficient way of trading.

The work poses strange questions as it oscillates between artwork (sensual, expressive, rhetorical) and catering (utilitarian, literally nourishing) and to consider the meaning of our lives and vocations in local communities and a functional future society. 'Understanding that prosperity consists in part in our capabilities to participate in the life of society demands that attention is paid to the underlying human and social resources required for this task.' (Jackson 2009: 182). Feral Trade focuses our attention on the truly pleasurable aspects of social exchange that are lost in our quest for affluence. 'Creating resilient social communities is particularly important in the face of economic shocks.[...] The strength of a community can make the difference between disaster and triumph in the face of economic collapse.' (Jackson 2009: 182).

Feral Trade is both art and a lived, alternative co-created system for trading and serving food that refuses commercial exploitation, contributes meaning and strengthens bonds across an existing community. A distinctive, memorable and sensual way for people to interact, to socialise and savour the socio-political ingredients of a meal eaten while discussing strategies for avoiding ethical discomfort. Most powerfully, it is a lived critique and reinvention of a fundamental aspect of everyday life (feeding ourselves) through the subtle tactics of manipulation and play (by its many participants).

It is our contention that by engaging with these kinds of projects, the artists, viewers and participants involved become less efficient users and consumers of given informational and material domains as they turn their efforts to new playful forms of exchange. These projects make real decentralised, growth-resistant infrastructures in which alternative worlds start to be articulated and produced as participants share and exchange new knowledge and subjective experiences provoked by the work.

Conclusion – Ecological Media Art promotes participation in social ecology

Social scientist Tim Jackson has shown that the establishment of ever more efficient and productive systems of control and growth, owned by fewer, more centralised agents, is both unjust and environmentally unsustainable (2009). The reverse also applies; that the distribution of freedoms and access to sustenance, knowledge, tools, diverse experience and values improves the resilience of both our social and environmental ecologies (Bateson 1972, Bookchin 1991, Jackson 2009).

Ecological media artworks turn our attention as creators, viewers and participants to connectedness and free interplay between (human and non-human) entities and conditions. It builds on the *DIWO* ethos. On the one hand we resist the elitist values and infrastructures of the mainstream art world and develop our own art context, on our own terms, according to the priorities of a collaborating community of creative producers (which may include diverse participants and audiences). On the other, we deal critically with the monitored and centrally deployed and controlled interfaces of corporate owned social media; wherever possible working with Free and Open Source Software to privilege commons-based peer produced artworks, tools, media and infrastructure.

Humanity needs new strategies for social and material renewal and to develop more diverse and lively ecologies of ideas, occupations and values. For this to happen more of us need to be able to freely participate more deeply in diverse artistic or poetic and technical world-forming processes and to exchange what we create and learn.

Those who share our 'analysis of the contemporary political moment may also perceive a possible role for themselves in the generation of mutual commons-based interfaces for engagement that go beyond solely textual formats to arrays of performance, narrative (fact and fiction), image, sound, database, algorithm, music, theory, sculpture – to explicitly re-conceive inalienable social relations (Catlow 2011)[23].

Notes

1. *A Crowded Apocalypse*, net art work by IOCOSE, 2012. Commissioned by the Abandon Normal Devices Festival and Furtherfield. Artwork available [online] at <http://www.acrowdedapocalypse.com/> [Accessed 26th June 2012]. Exhibited as part of a group show called Invisible Forces, Furtherfield Gallery, June - August 2012.
2. *Make-Shift*, networked performance by Paula Crutchlow and Helen Varley Jamieson, 2010 - 12. Stage and documentation available [online] at <http://www.make-shift.net/> [Accessed 26th June 2012].
3. *Moving Forest*, networked performance series by AKA The Castle, co-ordinated by Shulea Cheang, 2009 - 12. Documentation of networked performance available [online] at <http://mf2012.anorg.net/london2012/> [Accessed 26th June 2012].
4. *3 Keys – The River Oracle* by the Hexists. Part of Invisible Forces exhibition at Furtherfield Gallery, 2012. This event 'attempts to invoke the relationship between the divinatory functions of our contemporary 'influencing machines' (cybernetic systems and game theory using data-mining, data profiling and data protection) and traditional magical ones, creating new machines in the process. Using tools such as cards, dowsing, stick throwing to interpret phenomena in the landscape, historical and current, 'readings' can be cast, allowing associative action, language and thought to determine what might happen in the future, to create a path, an artwork. 'Documentation available [online] at <http://www.furtherfield.org/programmes/events/moving-forest-act-0-3-keys-river-oracle/> [Accessed 26th June 2012].
5. *Embroidered Digital Commons*, participatory socially engaged project by Ele Carpenter, 2009 - 13. Documentation available [online] at <http://www.open-source-embroidery.org.uk/EDC.htm> [Accessed 26th June 2012].
6. *Invisible Airs* by YoHa, 2011. Documentation available [online] at <http://yoha.co.uk/invisible> [Accessed 26th June 2012].
7. *Web 2.0 Suicide Machine* by moddr_ & Fresco Gamba, 2010 Artwork available [online] at <http://suicidemachine.org/> [Accessed 26th June 2012].
8. *The Status Project* by Heath Bunting, 2005 – ongoing Artwork available [online] at <http://status.irational.org/> [Accessed 26th June 2012].
9. *Tate à Tate* by Platform, 2012. Artwork available [online] at <http://tateatate.org/> [Accessed 26th June 2012].
10. *Germination X – a game about permaculture* by FoAM, 2005 - ongoing. Artwork available[online] at <http://www.germinationx.com/> [Accessed 26th June 2012].
11. *Naked on Pluto* by Dave Griffiths, Marloes de Valk, Aymeric Mansoux, 2010 - ongoing. Artwork available [online] at <http://naked-on-pluto.net/> [Accessed 26th June 2012].
12. *Rosalind, an Upstart New Media Lexicon* by Furtherfield, 2004 – ongoing. This project was initiated to encourage artists working in the field of new media art at the time to coin the terms and build the vocabulary to describe their own practice, to resist premature colonisation of the practice by academics and curators. Artwork available [online] at <http://www.furtherfield.org/get-involved/lexicon> [Accessed 26th June 2012].
13. *Do It With Others* (*DIWO*) call out, 2007. Netbehaviour email list. Available at <http://www.furtherfield.org/blog/furtherfield/do-it-others-diwo-e-mail-art-netbehaviour> [Accessed 28th June 2012].
14. HTTP Gallery was run by Furtherfield 2004 – 2010 from their warehouse space on Ashfield Road, Haringey. HTTP became *Furtherfield Gallery* in 2010 and in February 2012 opened as a gallery and social space in the heart of Finsbury Park, North London.
15. The background to the 2007 *Do It With Others* (*DIWO*) – E-Mail Art exhibition – the open call, co-curation process and a selection of works in the exhibition are described in full here. Catlow and Garrett (2008).
16. 'Notably, the history of evolutionary theory is inevitably a metalogue between man and nature in which the creation and interaction of ideas must necessarily exemplify evolutionary process.' (Bateson 1972: 1)

17. Graphical representations of data concerning historic and contemporary Fossil Fuel CO2. In particular see 2010 figure showing emissions by source region 1751-2010. Available [online] at <http://www.columbia.edu/~mhs119/Emissions/Emis_moreFigs/Efrac_byRegion.pdf/> [Accessed 28th June 2012]. This shows UK carbon emissions dropping as a percentage of global emissions by region (CDIAC 2010).

18. UK CO2 emissions since before the industrial revolution (Marland, Boden & Andres 2008). The image shows UK Carbon emissions rising sharply. Available [online] at <http://www.nef.org.uk/climatechange/images/co2emits.gif> [Accessed 28th June 2012].

19. Wiki for the Foundation for Peer to Peer Alternatives is available [online] at <http://p2pfoundation.net/> [Accessed 26th June 2012].

20. Documentation of *Feral Trade Café* – an exhibition that is also a working café, by Kate Rich. 13 June - 2 Aug 2009, HTTP Gallery. Available [online] at <http://www.furtherfield.org/exhibitions/feral-trade-cafe> [Accessed 26th June 2012].

21. Feral Trade Courier is the import export database that provides the infrastructure for organising the flow of goods between the network of couriers. Traders can track their goods and print waybills that document the stories associated with the produce. Available [online] at <http://www.feraltrade.org/cgi-bin/courier/courier.pl> [Accessed 26th June 2012].

22. An example of a Feral Trade waybill. In this instance, tracking coffee from San Pedro Nonualco-San Salvador to HTTP. Available [online] at < Gallery http://www.feraltrade.org/cgi-bin/package/2package.pl?action=format_waybill&edit_id=1507> [Accessed 26th June 2012].

23. From an open letter from to Michel Bauwens (Catlow 2011).

Bibliography

Bateson, G., (1972) *Steps to an Ecology of Mind*. University of Chicago and London: Chicago Press

Bauwens (2005) *The political economy of peer production*. Available [online] at<http://www.informatik.uni-leipzig.de/~graebe/Texte/Bauwens-06.pdf> [Accessed 28th June 2012].

Bauwens (2012) *Blueprint for P2P Society: The Partner State & Ethical Economy. Shareable*. Available [online] at <http://www.shareable.net/blog/a-blueprint-for-p2p-institutions-the-partner-state-and-the-ethical-economy-0> [Accessed 28th June 2012].

BBC News (2010) *Arts Council's budget cut by 30%*. 20 October 2010. Last updated at 17:40. Available [online] at: <http://www.bbc.co.uk/news/entertainment-arts-11582070> [Accessed 20th December 2011].

BBC News (2012) *Facebook riots page man Terry Balson detained*. 8 May 2012. Last updated at 19:57. Available [online] at: <http://www.bbc.co.uk/news/entertainment-arts-11582070> [Accessed 28th June 2012].

Bookchin, M. (1991) *The Ecology of Freedom. The emergence and dissolution of hierarchy*. Montreal, New York: Black Rose Books.

Bookchin, M. (2004) *Post-Scarcity Anarchism*. Edinburgh, Oakland, West Virginia: AK Press.

Bordieu, P. (1986) 'The Forms of Capital'. English version first published in Richardson J.G., (1986) *Handbook for Theory and Research for the Sociology of Education*, pp. 241–258. Available [online] at <http://www.marxists.org/reference/subject/philosophy/works/fr/bourdieu-forms-capital.htm> [Accessed 29th June 2012].

Catlow, R., & Garrett, G., 2008. *Do It With Others (DIWO) – E-Mail Art in Context*. Vague Terrain. Available [online] at <http://vagueterrain.net/journal11/furtherfield/01> [Accessed 26th June 2011].

Catlow, R. (2009) *Ecologies of Sustenance* Catalogue essay for Feral Trade Café – an exhibition that was also a working café by Kate Rich. 13 June - 2 Aug 2009, HTTP Gallery. Furtherfield, London.

Catlow, R. (2011) *Re-rooting digital culture at ISEA 2011*. Available [online] at http://www.furtherfield.org/blog/ruth-catlow/re-rooting-digital-culture-isea-2011 [Accessed 28th June 2012].

Catlow, R. (2012) *We Won't Fly For Art: Media Art Ecologies*. Culture Machine, Paying Attention, July 2012.

CDIAC, Carbon Dioxide Information Analysis Center (2010) *Fossil Fuel CO2 Emissions*. Columbia University. Available [online] at <http://www.columbia.edu/~mhs119/Emissions/Emis_moreFigs/> [Accessed 26th June 2012].

Feral Trade Courier (2009) Import, export database created by artist Kate Rich. Available [online] at <http://www.feraltrade.org> [Accessed 26th June 2012]

Garrett, M. (2012) *CROWDSOURCING A CONSPIRACY an Interview with IOCOSE*. Available [online] at <http://www.andfestival.org.uk/blog/iocose-garrett-interview-furtherfield> [Accessed 28th June 2012].

Garrett, M. (2012) *Heath Bunting*. The Status Project & The Netopticon. Available [online] at <http://www.furtherfield.org/features/articles/heath-bunting-status-project-netopticon> [Accessed 28th June 2012].

Jackson, T. (2009) *Prosperity Without Growth. Economics for a Finite Planet*. London: Earthscan.

Lovink, G., (2012) *Networks Without a Cause. A Critique of Social Media*. University of Amsterdam, The Netherlands.

Marland, G., Boden, T.A. & Andres, R.J. (2008) 'Global, Regional, and National Fossil Fuel CO2 Emissions' in *Trends: A Compendium of Data on Global Change*. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A.

Neate, R. (2011) 'Food price explosion "will devastate the world's poor'. *The Guardian*. Friday 17 June 2011 18.42 BST. Available [online] at: <http://www.guardian.co.uk/environment/2011/jun/17/global-food-prices-increase-united-nations> [Accessed 20th December 2011].

Parmesani, L. (1997) *Poesia visiva, in L'arte del secolo - Movimenti, teorie, scuole e tendenze 1900-2000* . Giò Marconi: Skira, Milan.

Turkle, S. (2011) *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books.

EMERGENT FRAMEWORKS

THE NEW GAMIFIED SOCIAL

Athanasia Daphne Dragona

Introduction

> How many friends do you have? How many followers? How many people have liked your recent post or video? How many shares or how many re-tweets did that post have? And then ultimately what is the total score? How influential are you?

These are questions that might not be openly asked but are always on social media users' minds. Constantly looking after their 'scores' and checking on the popularity of others', users today clearly show that in the social networking world numbers matter. Numbers reveal how sociable users are, how popular their sayings are, how interesting their everyday life appears to be. High scores depend on the content, or rather the virtuosity of the user behind the content; on the way moments, actions and thoughts are captured, expressed and uploaded, in proper timing with a readiness for timely interaction.

In the era of the attention economy, the social media world looks more and more like a game-space prompting players for their next decisions and moves. Following scores, newsfeed boards and status announcements, users compete for their online presence and peer recognition. Daily mediated interaction is charged by a degree of performativity, a degree of repetitiveness and addiction; a need to keep coming back to provide new feedback. But what drives these new modes of interaction? What is the broader context they can be studied in? Which are the forms of power and counter-power being developed?

In his *Grammar of the Multitude*, Paolo Virno notes that there is something childish in today's multitude, which at the same time is utterly serious (2004). He argues that repetitiveness persists today, just like it happens in the games of childhood, as a response to the need to protect one's self against the unexpected. Do social networking sites take advantage of such features of human behavior when they embrace game-like elements? This paper will aim to discuss these questions in an attempt to examine the emerging phenomenon of gamification, analysing its origin, consequences and counter-forces.

The emergence of gamification

Social networking sites were competitive right from the start. One can recall the early years of YouTube when people could rate videos using stars, or the period that MySpace and Facebook had a top friends rank. Although friends' or channels' numbers were hitting much lower scores than today, the first signs for the intensification and gamification of sociability were already there. The social web had appeared as a space where one could belong but also stand out, where one could collaborate but also compete, where one could express oneself but could act only within constraints. The new vivid and antagonistic participatory spaces were based on rules set by the social networking sites and on the progressive integration of dynamics and mechanics coming from another field, the field of games.

Gamification, as a term, appeared in 2010, some years after the social web boom, in order to specifically describe this process of integrating game elements into non game environments and drive participation. Not surprisingly, the term was 'invented' by a technology company BunchBall.com that wished to promote marketing as a game strategy (Ionifides 2011). However, gamification was not limited to cyberspace; its application expanded to different areas such as those of health, education, labour and advertising, aiming to affect human behaviour in ways desirable for the market. Using game mechanics and dynamics, such as points, levels and leaderboards on the one hand and awards, affirmations and achievements on the other, a broad spectrum of game like experiences appeared that succeeded in motivating and engaging the targeted audience.

Gamification at first seems fascinating. As game designer Jane McGonigal suggests, even society itself can be restructured better through such processes. Paying special attention to the emotional activation that only games can bring, she sees a future in which games will build stronger social bonds and lead to more active social networks. 'The more time we spend interacting within our social networks, the more likely we are to generate a subset of positive emotions…' she argues (2011). Thus, according to McGonigal, a new gamified social condition seems to arise driven through games and collective, pleasurable activities. While such optimism is yet to be confirmed, this paper will aim to examine the emergence of gamification following three basic axes related to a. the self, b. social relationships and c. urban space.

The gamified social condition

The gamified self

The avatar is a constructed identity that appears in the form of uploaded pictures, comments, and other forms of sharing, and every update to the site mediates and reforms this identity in view of others (Butera 2010).

The online self is formed by data. It is fed by posts, likes, shares, tags and status updates, and it is measured and quantified by sums of numbers. Like an avatar, it needs to be actively cared for, in order to be kept 'alive'. Similar to Sims characters or Tamagotchi toys, it relies on its owner's responsibility to survive but, at the same time, it is not really an avatar. The online self is a data body which has been gamified, as most information related to it is real, reflecting a real person in their everyday life.

What drives the construction of this new self? Scholars discussing the formation of online identities tend to agree on the desire to control the impression of the image of one's self in the presence of others. They turn to Erving Goffman's theory about the performance of the self (1956) and to Judith Butler's perception of a self in a permanent process of becoming (1990). Rob Cover for example, who mostly bases his research on Butler's work, argues that profile management is actually a form of identity performance (2012) while Pearson, referring to Goffman, examines how the controllable and mediated spaces of social networking sites allow users not only to create their online selves but also to create their own staging and the setting in which they will perform themselves. 'The online performative space is a deliberately playful space' she says but she also adds that in these new spaces there is not much risk involved. There is always a safe distance (2009). Pearson's thought can be connected to Zizek's notion of interpassivity; the state where one postpones being affected and being active (1999). Instead of the user, it is his/her profile that 'enjoys, laughs, believes in the right political causes and suffers…, thus relieving [one's] own real bodily self of all these sometimes unbearable duties and injunctions of being a decent human being.' (Muhr & Pedersten 2010).

So rather than living in a phantasy, in which we are building active selves that can change the world, as McGonigal argues, we need to face our lack of real action, the fetishism of our online ourselves. As Jodi Dean notes we have now reached a mindset where success is measured by numbers of friends and page hits rather than duration and depth of commitment (2009). This seems to be confirmed by social media platforms such as the Klout that count how influential we are based on our overall appearance and action in social media, or the Quantified Self community, supported by a collaboration of users and tool makers around the world who believe in self knowledge through data-acquisition and self-tracking.

The gamification of friendship

The number of contacts shown in one's profile on a social networking site is important. It supposedly indicates the popularity of the user and her/his level of activity in the network. In the first years of the social media, this number was taken seriously into consideration, with high 'scores' sometimes even leading to negative impressions. In 2004 for example, users making superficial connections in Friendster were characterised as 'Friendster whores', as Donath and Boyd write (2004). Nowadays, however, it is difficult to generalise as most users' number of friends has increased after a longer period of time in the social network. High scores now indicate how open or flexible a user is to the continuous friend requests received. But this change does not mean that numbers don't matter. On the contrary, in today's highly populated networks one has to fight for her/his online presence through her/his activity. And the larger the network is, the bigger the challenge to stand out and to be heard. The continuous flow of information demands constant participation.

Danah Boyd, in her research regarding friendship within social networks, argues that 'while Friending is a social act, the actual collection of Friends… provides space for people to engage in identity performance' (2010). Friends are needed to perform one's identity, allowing communities to be formed in egocentric ways, as Boyd observes (2006). But, is this real sociality? Sherry Turkle, in her latest book, explains how users have ended up being 'alone together'. Based on interviews she conducted, she describes how the mediation of technology has affected users to a point that friends are now processed, paused or nexted (2011). When friending, liking or tagging is possible, unliking, untagging and unfriending is also an option. When people are processed, relationships are processed too. And as friends are continuously filtered, one can come to the conclusion that we are not so much talking about a friends' network but rather of an ephemeral crowd, a different and distinct type of community based on mechanisms of suppression and censorship applied by users themselves (Butera 2010).

The mechanisms of the new ephemeral communities are important to study as they are also related to new hierarchies and structures empowering the new gamified social condition. A closer look to a friends' network in a social networking site like Facebook offers a clear idea. Users decide to connect to their real friends, the friends of friends and unknown 'friends' that are people of special interest. These are characters, that just like in a game environment, they can assist in leveling up. They are the ones users connect to, not only to upgrade their social status – a classic societal *cliché* – but also, for example, to enhance chances of job opportunities. In a period when companies start to check the social media profiles of their potential employees, it is expected that the ones with expanded networks of 'high quality' friends might be preferred (Adrejevic 2011). This category of 'high quality' friends, therefore, plays an interesting role in the capitalisation of friendship. The quality and quantity of friends form the metrics of power for a new social capital gene-rated by the users, aggregated by the social networking sites and exploited by third parties.

The gamification of the urban space

The gamification of social networking sites is not a solely web-based phenomenon. The last few years, thanks to the development of location based social networking sites such as Foursquare or Gowalla, gamification expanded to the streets of the city. Integrating challenges, points and levels, these sites invite inhabitants to use their mobile phones and compete with their friends for achievements, awards and status. What a great playful way to experience the city, supporters of gamification would argue. As McGonigal notes, platforms like Foursquare reward users for novel activities and for making an effort to be social (2011). But is this so?

The gamification of the urban environment presents a special interest because of the theory it contradicts. Discussing the urban environment as a game-space, one's mind unavoidably returns to the writings of Constant and the Situationists, that have been quoted so often by contemporary scholars studying pervasive games and locative media. One can particularly recall Constant's 'city of movement', the *New Babylon*, where citizens, liberated from work thanks to the advancement of technology, could have dynamic relationships with their surroundings; or to reflect on Situationist notions of psychogeography and drifting, where people were invited to a playful wandering where they could follow their own desires.

But to what extent are these elements revived? How do the rules and constraints imposed by gamification relate to the ideas of the thinkers of the 60s? Although Constant wisely predicted the exciting ludic behaviour technology would bring, little could he foresee the expropriation that would follow. Today's city of movement is based on the new playful worker who, following homo faber and homo ludens, is seduced by technology and fooled by the impression that it can empower him. Today's location based social networking sites do not leave much of a choice. By setting rules and constraints, by enclosing certain locations in the map and excluding others, and by connecting challenges and awards to consumption and advertising, no space is left for drifting and freedom of action.

The formation of the new controlled city seems, therefore, to be the complete antithesis of what the Situationists once envisioned as the playful city.

Some points about gamification's function

By taking into consideration users' aptitude for competition and triggering them with challenges, which might be direct – like a badge in Foursquare – or indirect – like peers' recognition on Facebook – users' participation and interaction is significantly augmented. As an outcome of this socialisation, a new form of wealth is created based on the accumulation of social capital and its openness for further processes of exploitation. Advertising companies, employment networks or government services are only some of the receivers of data aggregation. Observing the new social condition, for the self, the social relationships and the urban space, several common elements become clear and can be identified.

First of all, gamification's connection to the market is undoubted, its aim being to engage people in certain behaviours that connect to services or products. For this reason, gamification, since the beginning, was confronted with hesitation by scholars from the game studies field. Described as 'exploitationware', by

Ian Bogost, or as 'a tactic employed by repressive, authoritarian regimes', by Heather Chaplin, gamification was questioned in its aims and values. Complementary to this first argument, a number of logical points follow regarding the sense and impact of the use of game dynamics and game mechanics. Do we really need extrinsic awards, points and numbers to present who we are to the others, to make friends and wander around in the city? Does having our interactions and movements tracked, controlled and used worth it?

In reality, gamification is in perfect accordance with the post-Fordist condition in which we live, with forms of production based on the knowledge, information, codes and affects users/friends/citizens produce and exchange. Gamification invites us to produce more while we are being performative and while competing with our friends. We produce as we play. We work as we interact. We play as we work. A second point that can be made is that gamification intensifies immaterial and affective labour. While, one can not be forced to be creative, or to participate and contribute in today's social networking sites, the integration of game elements succeeds in re-introducing motivation and affection in order to facilitate work. As Arvidsson has noted, 'ruling through freedom' can be achieved in an artificial environment, such as a game, which is constructed so that freedom and passions are put to work (2007).

Thirdly, gamification generates a new form of alienation; an alienation from the users' own data. The number of likes or comments introduce new forms of measurement but weaken the importance of the individuals behind them (Man 2011). When data is depersonalised, the user is detached from it; she/he stops paying attention to the specific information provided as she/he gets limitless opportunities for association, exchanging and belonging. The networks keep reminding users how many friends, photos or videos they have in common, encouraging them to keep looking for more. As Richard Rogers writes in his introduction for the notion of post-demographics

> of interest [today], are not the traditional demographics of race, ethnicity, age, income, and educational level – or derivations thereof such as class – but rather the demographics of taste, interests, favorites, groups, accepted invitations, installed apps and other information that comprises an online profile and its accompanying baggage. (Rogers 2009).

This is what feeds the market and keeps it alive. The circle is vicious. The more posts and likes a user makes, the more suggestions the market will have for her/him through the friends network.

In the end, what the user is left with is her/his new gamified data body; that is a body created based on her/his potentiality, skills and interests but on which she/he has no power over. But have we really reached such an impasse?

Opposing gamification

While gamification seems to be introducing new forms of dehumanisation, measurement and alienation for the new social condition, at the same time the potential of the social can never be totally captured as it will always be in excess, like life itself is nowadays. As every mechanism feeds its anti-mechanism and every power its counter-power, gamification has also given birth to forms of resistance developed within its system, aiming to impede its functioning, to confuse it or to subvert it. At this last section, an attempt will be made to name some examples of tactics and practices developed by users, creators, programmers and scholars.

Faking identities

One of the older examples of resistance comes from the old network Friendster. Danah Boyd, who has studied Friendster, explains how users created fake profiles to cheat the platform when needed (2006). This happened when Friendster decided to impede its users from browsing profiles that exceeded four degrees of separation (friends of friends of friends of friends). Fakesters came as a response. They were profiles invented by the users for actors, pop stars, ideas, songs to which a lot of people could connect and use as hubs to get more access. Although the accounts were at some point terminated by Friendster, a form of *exploit*, a hole in the system, was found and collective action succeeded in temporarily subverting its rules and constraints.

Over-presence/Hypertrophy

In Facebook, users, from the start, have been playing with tagging and linking, creating small acts of sabotage that were confusing the system. Irrational, humorous and weird ideas and actions are created such as irrational fun pages which succeed in breaking the productivity chain, impeding capital to be generated for the market. Sean Dockray, in his 'Suicide Facebook (Bomb) Manifesto' writes that if we really want to fight the system we should drown it in data, we should 'catch as many viruses as possible; click on as many 'Like' buttons as possible; join as many groups as possible; request as many friends as possible. Wherever there is the possibility for action, take it, and take it without any thought whatsoever. Become a machine for platforms and engines.' (2011).

Exodus from the game-space

Another radical tactic that has been proposed, in a humorous way, is based on the reclaiming of a right to exit from social networks. As Spehr writes, while discussing networks, there must be a freedom to refuse to collaborate, an exit strategy. It should be possible for rules to be rejected, questioned and negotiated. (Spehr 2003). 'web 2.0 Suicide Machine' by the Moddr team and the 'Sepukoo' of Les Liens Invisibles are examples of projects developed by artists in this direction. Developed in 2009, they enabled users to commit suicide, to delete their account permanently, something not allowed in most social networks. Using the mechanism of the game, they created a parody of social networking sites, presenting elements such as top lists of suicides and a network of happy users liberated from the constraints of the platform.

Obfuscation/ Nonexistence

This is a counter logic that can protect one's data or provide false data, discussed by Brunton and Nissenbaum (2011). Some examples are the 'FaceCloak', that provides the initial steps towards an elegant and selective obfuscation-based solution to the problem of Facebook profiles (Luo, et al., 2009), and 'TrackMeNot', which was designed to foil the profiling of users through their searches. Interesting examples also come from the network of the Unlike Art network, with projects investigating social media produced by Networked Media students at the Piet Zwart Institute of Rotterdam.

Hacks of appropriation

Creators have often used tactics of appropriation to oppose the system of social networking sites in a playful and ironic way. A great example is the work of the artist Tobias Leingruber. As part of his 'Facebook resistance' workshops he has designed several counter-tools and hacks, in collaboration with participants, that aim to impede the proper functioning of the system and its rules. In 2012 he also proceeded in setting up a Social ID bureau producing Facebook identity cards, playing with the idea of the new online identity and data body offered by the medium itself.

Exposing the game mechanics

Other projects created by artists have appropriated the game mechanics the social media use to expose their use and develop a critique. Such a case is the 'Folded In' game by Personal Cinema & the Erasers. Based on YouTube video wars, 'Folded In' highlighted the game elements used in the popular video platform and the way users are engaged by them. Or, a more recent example, is Ian Bogost's 'Cow Clicker', an application developed for Facebook, inviting people to click on a Farmville-like cow every six hours, commenting on the phenomenon of clicktivism. Other works worth mentioning are the 'Add to friends' by Nicolas Frespech, where the user clicks to add to an already excessive number of friends of the artist; or the 'Elfriendo' service, by Govcom.org, that generates MySpace user profiles along with compatibility tests and taste construction.

Conclusion

This paper aimed to examine the emerging phenomenon of gamification and discuss what its application means for the new social condition. As a strategy invented, encouraged and applied by the market, gamification intensifies relationships and interactions, aiming to generate value. For this reason, it marginalises opportunities for substantial social interaction but also underestimates the possibilities for critical resistance against its game-like structure.

At the same time, no matter how asymmetrical power seems to be, counter-power tactics are being developed by users, programmers or artists who seek to render control impossible, to re-appropriate content and to play with the strategy of gamification. These tactics remind users of the right of disobedience and the necessity of liberation from modes of surveillance, control and exploitation.

Instead of following the measurements of gamification, they highlight an urge for critical awareness and understanding, exposing the functioning and the purposes of a strategy that in reality has little to do with games.

Going back to Virno's positioning on the multitude's childish character, perhaps we need to re-consider: what is the 'unexpected' we are socially afraid of today? Have we left any room for it? Or have we let all social experience be captured, measured, controlled and planned by networks themselves?

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References

Andrejevic, M. (2011) 'Social Networking Exploitation' in Zizi Papacharissi (ed.) *A Networked Self:Identity, Community, and Culture on Social Network Sites* New York: Routledge. pp. 82-101.

Arvidsson, A. (2007) 'Creative class or Administrative Class?' in *Advertising and the Underground in Ephemera.* vol. 7(1). pp. 8-23.

Bogost, I. (2011) 'Gamification is bullshit' in *Videogame Theory, Criticism,Design* http://www.bogost.com/blog/gamification_is_bullshit.shtml [accessed 2.9.2011].

Boyd, D. (2006) 'Friends, Friendsters and Top 8: Writing community into being on social networking sites' vol. 11. no.12 in *First Monday.* http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1418/1336 [accessed 10.08.2011].

Brunton, F. & Nissenbaum, H. (2011) 'Vernacular resistance to data collection and analysis: a political theory of obfuscation' vol 16. no.5. in *First Monday* http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3493/2955 [accessed 10.5.12].

Butera, M. (2010) 'Gatekeeper, Moderator, Synthesizer' in E. Wittkower (ed.) pp. 201 - 212.

Butler, J. (1990) *Gender Trouble: Feminism and the Subversion of Identity*. London and New York: Routledge.

Chaplin, H. (2011) 'I Don't Want To Be a Superhero' in *Slate* http://www.slate.com/articles/technology/gaming/2011/03/i_dont_want_to_be_a_superhero.html [accessed 10.10.2011].

Constant (1974) 'New Babylon' in *Not bored* http://www.notbored.org/new-babylon.html [accessed 2.8.2011].

Cover, R. (2012) 'Performing and undoing identity online:Social networking, identity theories and the incompatibility of online profiles and friendship regimes'. vol 18. no 2. in *Convergence: The International Journal of Research into New Media Technologies*, pp. 1-17.

Dean, J. (2009) *Democracy and other neoliberal fantasies: Communicative Capitalism and Left Politics*. Durham & London: Duke University Press.

Dockray, Sean. 2010 'Facebook Suicide (Bomb) Manifesto' in http://spd.e-rat.org/writing/facebook-suicide-bomb-manifesto.html, (accessed 10.8.2011)

Donath, J., & Boyd, D. (2004) 'Public displays of connection' in *BT Technology Journal* 22(4), pp. 71–82.

Goffman, E. (1956) *The presentation of self in everyday life*. Edinburgh: University of Edinburgh.

Ionifides, C. *Gamification: The Application of Game Design in Everyday Life*. MA thesis published as Ebook. Copenhagen 2011.

Wanying, L., Qi, X. & Hengartner, U. (2009) 'FaceCloak: An Architecture for User Privacy on Social Networking Sites' in www.cs.uwaterloo.ca/~uhengart/publications/passat09.pdf [accessed 10.5.2012].

McGonigal, J. (2011) *Reality is Broken, Why games make us better and how they can change the world*. London: The Penguin Press.

Muhr, S. L. & Pedersten, M. (2010) 'Faking it on Facebook' in Wittkower, E. *Facebook and Philosophy*.

Pearson, E. (2009) 'All the world wide web is a stage:The performance of identity in online social networks'. vol 14. no 3. in *First Monday* http://www.firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/2162/2127 [accessed 10.4.2012].

Rogers, R. (2009) 'Post-demographic Machines in Walled Gardens' Dekker, A. & Wolfsberger, A. (eds.) Eidhoven: Lecturis. pp. 29 – 39.

Spehr, C. (2003) *Gleicher als andere, Eine Grunlegung der freien Kooperation* Berlin: Dietz Verlag.

Turkle, S. (2011) *Alone Together, Why we expect more from technology and less from each other*. New York: Basic Books.

Utz, S. (2010/15) 'Show me your friends and I will tell you what type of person you are: How one's profile, number of friends, and type of friends influence impression formation on social network sites' in *Journal of Computer Mediated Communication*. pp. 314 - 335.

Virno, P. (2004) *The Grammar of the Multitude*. trans. by Bertoletti, I., Cascaito, J., Casson. A. Los Angeles/ New York : Semiotext(e).

Zizek, S. (1999) 'The Interpassive Subject' in www.lacan.com/zizek-pompidou.htm

Projects mentioned

Add to friends, http://www.frespech.com/myspace/
Elfriendo, http://www.elfriendo.com/
FB resistance workshops, http://fbresistance.com/
Folded In, http://www.foldedin.net/
Sepukoo, http://www.seppukoo.com/
Social ID bureau, http://socialidbureau.com/
Unlike Art, http://networkcultures.org/unlikeart/
Web 2.0 Suicide Machine, http://suicidemachine.org

DERIVATIVE WRITING: E-LITERATURE IN THE WORLD OF NEW SOCIAL AND ECONOMIC PARADIGMS

Janez Strehovec

This paper seeks to broaden the conceptual field of e-literary studies by exploring the social and economic context that shapes e-literature as an emerging field of textual practice in new media. It is also an attempt to analyse the current positioning of e-literature in the broader field of algorithmic culture and to explore its interactions with new media art. Our research is driven by the idea that e-literature and its institutions might also be explained by applying some key concepts taken from the social sciences (including economics). E-literary text is viewed as a social event: it needs the presence of the audience, and the process of its creation is embedded in its social context.

In the first section of this essay we draw on e-literature in terms of algorithmic culture, which is essential in bridging the gap between the culture of literary intellectuals and that of scientists (Snow 1959). Algorithmic culture presupposes the change from pure linguistic codes, as crucial for traditional print-based literary text and its theory, to extra-linguistic codes, among them the social. The second section addresses the e-literary world as a field comprised of various institutions that make up an institutional framework for e-literary production. The third section relates to the present state of global financial markets, demonstrating some properties that are shared with e-literature.

Nothing that is happening in new media art and e-literature is excluded from the social text and context, as determined by the findings of contemporary science, new media and technologies, as well as the new network-supported economy and post-political politics (Virno 2004). In an age of globalisation and its scenarios, that lead to one-dimensional globally established modes of participation and behaviour, we are the contemporaries of several cultural trends that are impacted by the novel role of technology in an individual's life as well as with paradigm shifts relating to the modes of production, reproduction and organisation of communities, networking and the economy. In the field of culture, these movements are dictated by McDonaldisation, CNNisation, Microsoftisation, Benettonisation, Googlisation and other trends imposed by transnational corporations and their brands, which interfere in the individual's *lebenswelt* and seek to profile her. Today's individual lives in a techno-culture, meaning that the human as a being-in-the-world has mutated into a *being-in-the-technology*. Such a paradigm shift implies a theoretical turn, in terms that the technological concepts deployed in analysing today's individual, and her activity, could be explained as philosophical and literary. The issues of bandwidth, plug-ins, social algorithms and protocols do not remain outside techno-cultural studies; *generation Flash* (Manovich 2002), in the field of art-making, goes hand in hand with Flash poetry and poetry generators.

This connection of the individual and technology is covered not only by the concept of techno-culture; it is also described by expressions such as interface culture, cyberculture, software culture, digital culture, new media culture and algorithmic culture. These terms do not indicate a culture based on the techniques and technologies of industrial society but rather culture and cultures that are shaped by the applications of smart devices and software as key factors in an information society. Techno-culture applies the techno principle (in terms of challenging the extreme edges of perception – such as techno music). Interface culture (Johnson 1997) focuses on the role of interfaces in an

individual's perception and functioning. Cyberculture presupposes classical cybernetics and second order cybernetics in monitoring and controlling cultural contents. Software culture focuses on software platforms (Goriunova 2011) that have a creative role in culture and art. Digital culture presupposes trans-coding from analogue to digital and the consequences it has at the level of archives and data distribution. New media culture derives from the logic of the database and processes of mixing and remixing cultural contents. Algorithmic culture includes all the features of the previously mentioned cultures and expands them throughout the area of social and cultural algorithms implemented by state -of-the-art software.

E-Literature and its new media features

An encounter with the works presented in the online E-Literature Collections I and II, and with the performances and readings within the framework of E-Literature Organisation conferences, E-poetry festivals, and ELMCIP seminars and workshops, reveals that e-literature has outgrown its early phase of hyperfiction (and hyperpoetry) as a mainstream of e-literature in the nineties of 20th century, which left aside other experimental movements of e-literary writing (e. g. kinetic poetry), and began to articulate itself through textual practices characterised by new media specificities. In this post-hypertext generation of e-literature (from John Cayley's and Stephanie Strickland's e-poetry to Mark Amerika's, Simon Biggs', Alan Sondheim's and Serge Bouchardon's e-textual installations and performances), hypertextuality is merely one of the features co-existing with a number of other qualities, forms, and processes, including software, textual instruments, gaming, VJ-ing, mash-ups, virtual reality, special effects, social networking, virtual architecture, Second Life poetics, and locative media. We also find in these works that literariness and narrative are jeopardised, while the logic of databases and post-literary effects step into the limelight. Media poetry (Kac 2007) and new media poetry (Morris & Swiss 2006) are, in particular, the experimental fields where we can observe those transformations, which determine new media -shaped literary creativity at the very point at which it leaves the printed page.

Regarding this introductory understanding of a broader concept of e-literature, it is essential that it is placed in algorithmic culture, because this placement will show us that e-literature is a sufficiently unique field that cannot be simply explained as a continuation of literature-as-we-know-it by other means; a field which requires finding new concepts that often arise from non -literary fields (e.g. new media, cinema theory, software studies, gaming theory and social theory). Techno-culture, after the first decade of the twenty-first century, is defined by the expansion of social networks as highly algorithmic, meaning that contemporary cultural contents require an algorithmic approach. Here we are dealing with two classes of algorithmic applications: one based on the requirement that an individual user needs to know the algorithm which is the basis of a certain cultural content (e.g. video game), in order to enter and understand it. The second deals with another class, referring to the smart algorithms of networked systems, which nowadays perform (e.g. in social networking) tasks that significantly affect one's epistemological field, including literacy.

An example of the first class is the playing of video and computer games, where the gamer's success is conditioned by her knowledge or reconstruction of the (secret) algorithm that functions in the game. 'To play the game means to play the code of the game. To win means to know the system. And thus to interpret a game means to interpret its algorithm (to discover its parallel "allegorithm")' (Galloway 2006: 90-91). This issue has also been addressed in Manovich's *The Language of New Media*: 'As the player proceeds through the game she gradually discovers the rules that operate in the universe and constructed by the game. She learns its hidden logic – in short, its algorithm'.(Manovich 2001: 222). Galloway and Manovich formed these notions when they were faced with video games; however, their statements on the algorithmic nature of video games may also be used in explaining the features of e-literature, particularly those works shaped as text-based installations. Here the user, similar to a video gamer, is in the real world, in which she is carries out a number of motor tasks in front of the screen, while at the same time she manipulates and controls a (virtual) avatar presence on the screen. She is here and there, jumping between the real and the cyber modalities, because e-literary work challenges non-trivial, problem-solving encounters with its users, requiring an algorithmic approach (e.g., Bouchardon's *Toucher*, which makes the user deploy various interfaces to enter the piece). Such encounters presuppose a basic knowledge of the software applied in e-literary pieces in terms that the reader who is familiar with the software shaping an e-literature piece can read more than the reader who has approached such a piece only on the basis of the experience shaped by the reading of print literature. 'If anything, a user without knowledge of html could be more confused by looking at the code, and might mistakenly believe some sort of generator should be present when in fact <meta name> tag simply states the name of the html editor used to create the page' (Funkhouser 2012: 191).

An example of the second class are algorithms used for organising and managing a user's participation, behaviour and way of thinking in major social networks and on the Internet in the following sense:

> When I began writing about 'algorithmic culture,' I used the term mainly to describe how the sorting, classifying, hierarchizing, and curating of people, places, objects, and ideas was beginning to be given over to machine-based information processing systems. The *work* of culture, I argued, was becoming increasingly algorithmic, at least in some domains of life' (Striphas 2011).

Such algorithmic culture is at the heart of today's Internet culture and social networking, where a series of algorithms essentially defines an individual's behaviour and decision-making, perceptions and thinking, socialising and participation. It may be illustrated by Google's PageRank, as a technology that determines the importance of a webpage by looking at what other pages link to it, and Facebook's algorithm EdgeRank, which determines which of your connections is the most important to you and thus appear more frequently and which kinds of content should be prioritised.

Algorithmic culture is a culture of algorithm-organised content (normally software controlled and managed) and therefore requires algorithmic, problem-solving thinking and related organised functioning. Algorithmic thinking presupposes procedures that are formed economically and with carefully selected steps, which solve the problem and help reach the objective. This is about a culture that seeks to supersede Snow's division of 'two cultures', the cultures of natural scientists and literary intellectuals, with a third culture (Vesna 2001) that tries to overcome this traditional division and its related (social, cultural) conflicts.

Can we consider e-literature in similar terms as video and computer games, as a field of algorithmic culture *par excellence*? A number of e-literature works may be understood as sophisticated cyber tools (e.g. poetry generators), the understanding of which requires a non-trivial effort from its readers-users. They too are forced into decoding the algorithm that is in the 'background' of such a project, and its entry often requires an algorithmic approach in the sense that a user creates an efficient approach to such works in order to effectively enter into them on her own. In addition, an algorithmic approach also connects video games with e-literature, where one of the useful concepts and paradigms is not only gaming, but also textual instruments (Wardrip-Fruin's term), applying the intrinsic logic of a game.

The E-Literary World as a Referential Framework of E-Literature

E-literature is embedded in today's reality and its fundamental social and cultural turns, which may be described as a transition

- from an industrial to a post-industrial information society;
- from labour through material production to immaterial work;
- from factory to corporation;
- from (material) product to logo;
- from an artefact economy to an economy of the performative;
- from production to prosumption (the consumer is addressed, one's feedback is considered), and to playbour;
- from an economy of products to an economy of experiences and adventures;
- from linguistic and discursive to biological and political;
- from an aesthetic culture to culture as an economy of spectacular events.

These changes are reflected with different modern sociological views, amongst which are especially significant those that also address the social condition of new media art and e-literature.

> Language, signs, and images do not represent something, but rather contribute to making it happen. Images, languages and signs are constitutive of reality and not of its representation (…) The corporation does not generate the object (the commodity), but rather the world in which the object exists. Nor does it generate the subject (worker and consumer), but rather the world in which the subject exists (Lazzaratto 2003).

Signs are those which construct the 'event-like'; they actually have an advantage over material contents. Factories, in terms of (heavy) industrial units, become secondary; they appear, if at all, later, after the corporations have already established the path to corporate marketing by attacks with sign contents; they migrate, or already have, to the Third World. The former is therefore concerned only with symbolic operations and marketing strategies and with constructing a world in which the products are incorporated. When we talk about such an artificial world, we may ask ourselves whether this concept is also useful in the field, which is the topic of interest in this essay, and that is e-literature and 'the social'. The answer is affirmative. Lazzaratto's account is also of import in understanding the developments in the current creative communities of e-literature, as they are directed towards the shaping of this field, which, rather than on finished e-literary pieces, focuses more on symposia, presentations, conferences, readings, seminars, workshops and performances, where these pieces are staged.

> I show that the term New Media Art is not used to describe a practice, but the art cultivated by a particular community, or better by a whole art world (…) A work of art - whether based on technology or not - is usually classed as New Media Art when it is produced, exhibited and discussed in a specific 'art world', the world of New Media Art (Quaranta 2011).

By writing about Dierk Eijsbouts's *Interface #4/ TFT tennis V180*, presented at the Ars Electronica festival in 2005, Quaranta has argued that this piece 'is a typical artifact [sic] of the world of New Media Art. Outside of that world, it would not have much of a chance: the contemporary art world would disparage it as a vacuous celebration of technology, while the video games industry would file it away under unsustainable ideas.' What is essential here is that such a new media art piece doesn't fit the demands of either established art (e.g., the contemporary art world) or the trends of popular culture (e.g. the video games industry).

Is a developed concept of new media art, with its distinctions of both contemporary art and popular culture, also significant in defining the social condition of e-literature? Is e-literature also a field which cannot be adequately evaluated and classified, either by the institutions of modern literature and criticism or by the institutions of recent techno-culture? When talking about e-literature, we need to emphasise that this is an emerging field, which is in search of institutions of reproduction and dissemination, theory and criticism, so drawing on Quaranta's concept of the new media art world we can introduce the technical term of an e-literary world. Such a world might be understood on the basis of Lazzaratto's account of the construction of 'the world in which products are incorporated'. It is not only about production (of e-literary pieces, projects, performances), which would be situated in an abstract environment and randomly seek theorists and critics who are active in the field of traditional and modern printed literature, but it has its own frame of reference: a very special *world in which the e-literary content exists*.

In this particular world it is essential to be present at events such as E-literature Organisation conferences, E-poetry Festivals and relevant conferences, in specific publications (e.g. Dichtung Digital, Cybertext Yearbook, etc), national and international research projects that deal with e-literature, the ELMCIP knowledge base and visible to scholars dealing with e-literary theory and criticism. For every participant in this field, the collaboration in the e-literary world, in the economy of events, performances and experiences is essential; for them, this is the basic environment from which they get the feedback that allows them to be noticed. The e-literary world gives them an autonomous context in which their works can be produced, performed and discussed. E-literature authors do not create their pieces blindly, for the sake of history or for some future abstract reader/user, but for a community composed of individuals within institutions. Just to create an e-literary piece is not enough; it is also necessary to present it in the community, find an audience for it and critics and theorists who will refer to it. Outside of the e-literary world, many e-literary pieces do not have much of a chance.

Toward the Spectacular Economy of Financial Markets

In the 1980s and '90s, not only in the USA and Western Europe but also in China and developing countries, we witnessed a boom in the financial markets which were 'flooded' by capital from all economic sectors. Indeed, it became clear that said markets – particularly in the short-term – allowed significantly higher yields than markets for material goods. The growth in this field can undoubtedly be attributed to technical progress, particularly in the field of software and global networking, which

allow today's spectacular events in financial markets worldwide. Soon after Wall Street closes the Far East financial markets start to open (the Tokyo stock exchange opens at 2 a.m. CET) and the staged spectacle indexed in the Dow Jones and composite NASDAQ, as well as in the European equivalents (such as the DAX and FTSE), continues with events measured by the Hang Seng, Shanghai Composite index, the Japanese Nikkei and other Asian indices.

In terms of content, we are the contemporaries of a visible transformation of an (industrial) economy focused on material production into an economy based on services and finances. To put it simply: the latter is a far more abstract economy, where the exchange of commodities is replaced by a series of new financial instruments, including derivatives; more than with stable artefacts, we deal with unstable concepts, ideas and, of course, code. In drawing attention to this paradigm shift toward the abstract, let us point out that those involved in the analysis of contemporary culture and art are no strangers to the above. If there is any field that is constantly subject to destabilization, volatility, introduction of news, hybridisation, mixing and remixing, the promotion of (exchange) value and the rapid decline of particular trends (and value), it is contemporary art (including e-literature), in which the object's dematerialisation plays a similar role to that played in the field of the economy, by the transition from a (material) production economy to an economy of (far more abstract) financial products and services.

However, contemporary art did not just passively follow the changes generated by social and economic shifts but accomplished a pioneering work itself. Just think of Marcel Duchamp and his ready-mades, that drew attention to the relevance of the author-brand (as a potential logo) in the field of contemporary art, as well as the broader effects of the institution of art as the one having the mechanisms to promote the exchange-value of certain products and push others to the margins. That artistic context, and its formation through branding, allows an ordinary object manufactured for a specific use to enter a completely new and different life; this was Duchamp's message with his 1917 'urinal project', *Fountain*. As for theory, Boris Groys' work *Über das Neue* (1992) is one of the rare ones that followed the economy of art in the sense that this field is constantly subject to valuations and devaluations as well as dynamic transitions between profanity and valuable (cultural) archives.

Flexibility in the field of contemporary art and e-literature finds it easy to follow the dynamics of the network-supported economy of financial markets, where new financial products bring dynamics into the spectacle of the global, 24-hour market mentioned earlier. Due to the fact that – at least in the short-term – financial markets allow significantly faster and larger profits, they generate new products that attract buyers and speculators. Hedge funds and derivatives (options, futures, contracts) have a special place and bring a new quality to said markets. This is particularly true for trading in derivatives, the price of which depends on the underlying asset (commodities, currencies and securities), reference rate or index they refer to. There are situations when hedge brokers try to reduce the risk whilst speculators increase it in order to maximise their profits. In short, it is a situation where we have an indisputable value basis that we use to increase our assets in the future (or secure them).

With some works of contemporary and, in particular, new media art one can notice that artists also focus on the 'artistic underlying asset' and refer to it in order to secure their interests and even make a profit. They produce derivatives in the sense that they refer to the indisputable value of the underlying reference work (taken from the high-valued artistic and literary tradition), which indirectly – through its 'branding value' – also guarantees the branding of their derivatives; indeed, 'a question about the value of a work is a question about its relation to traditional examples and not to extracultural profanities' (Groys). Let us mention the Slovenian new media artist Marko Peljhan, who, in collaboration with Carsten Nikolai and Canon Artlab, designed the *Polar* project (2000), thus entering into a creative dialogue with Stanislaw Lem's novel *Solaris* (1961). Despite being rooted in a significantly transformed world of the information society and new stories, *Polar* strives to establish contacts with the unquestionably recognised *Solaris*.

The hedgers (brokers of so-called hedge funds) speculate (in order to secure their investments) and so do artists; they keep counting on the spectator, reader or listener who is not here yet but who will add surplus value to their product in the future. They bet on the future, they live by and in their insecurity, they speculate and bet on it; they are convinced that the course of events will add surplus value to their work. Their option contract refers to some point in the future; they reckon the situation in the market or art scene will change toward their interest. They design works oriented to the new and at the same time their basic intention refers to the institution of art, to its 'approved' works (applied as quote, remake, remix), which gives them a certain amount of security. For example, Natalie Bookchin's art project *The Intrude*r, produced in the instant and insecure media of artistic video games, establishes a reference to Borges' novel *La Intrusa* in order to provide added value to an uncertain, new media work (a so-called 'mod', e.g. artistically derivative of a commercial video game).

Bookchin's work can be understood as a contribution to a broader concept of e-literature, which extends beyond hyperfiction towards different genres (from video games to performance) positioned at the intersections of e-literature and new media art. In this domain we are contemporaries of different e-writers' strategies for drawing attention to their work and inventing their own economies. Many of them decide, for example, to engage writing and programming in the sense that they refer to the indisputable value of the underlying reference work, generated by a well-known artist. Here we can mention several authors, from Simon Biggs and Neil Hennessy to Alison Clifford and J. R. Carpenter, whose e-literary pieces relate to predecessors' texts taken from the world of literature-as-we-know it. Simon Biggs' *The Great Wall of China* not only borrows Kafka's title, but appropriates the whole body of his text, taking the multiple individual building blocks that make up the story and feeding each word into a generative computer program that re-assembles them into new sentences. Hennessey's *Jabber* produces nonsense words that sound like English words, in the way that the portmanteau words from Lewis Carroll's 'Jabberwocky' sound like English words. The key reference of Jabberwocky is Carroll's nonsense verse poem from his 1871 novel *Through the Looking-Glass*, and *What Alice Found There*, while Alison Clifford in her *The Sweet Old Etcetera* relates the work to e. e. cummings' poetry, which has some poetry procedures (e.g., use of parentheses, capitalisation, and spacing on the page) that have impacted several authors of e-poetry (e.g. Komninos Zervos, Mez, et al). In J. R. Carpenter's *Along the Briny Beach* quotations from Elizabeth Bishop, Joseph Conrad, Lewis Carroll, and Charles Darwin are employed, as well as the code of another e-poetry generator (Nick Monfort's *Taroko Gorge*). Such an intrinsic link to Monfort's poetry generator contributes to an understanding of the e-literature world in terms of a field that is becoming self-referential and autopoetical.

The decision of e-literature writers to write texts that can be considered as roughly analogous with derivatives on financial markets and thus to some speculative and abstract activity, is certainly not pejorative. Rather than being considered imitation, such an activity reflects the nature of an e-literary area that is full of uncertainty, in the sense that authors, once they begin creating such works, always find themselves facing the unknown and searching for ways to highlight in them something that will attract readers and critics. Connecting to other works, in the form of 'derivative writing', allows them to add value to their works, which often implies an entry into the valuable archives of literature and art, whose common denominator is a surplus in the field of creativity and innovation. Thus, derivative writing presupposes writing, which deploys such an underlying asset (which has a big part in the attention economy) to help the author to enter the valorised archives of the e-literary world.

Bibliography:

Biggs, S. (1996) *The Great Wall of China* http://www.littlepig.org.uk/wall/index.htm [Accessed 19 October 2011].

Bookchin, N. *The Intruder* http://bookchin.net/intruder/english/html/a_title.html [Acessed 13 April 2012].

Bourchardon, S. *Touch, Toucher.* http://collection.eliterature.org/2/works/bouchardon_toucher.html [Accessed 13 February 2012].

Carpenter, J. R. *Along the Briny Beach.* http://luckysoap.com/alongthebriny-beach/alongthebrinycredits.html [Accessed 12 February 2012].

Clifford, A. (2006) *The Sweet old Etcetera.* http://collection.eliterature.org/2/works/clifford_the_sweet_old_etcetera.html [Accessed 18 April 2012].

Funkhouser, C. (2012) *New Directions in digital poetry*. London, New York: Minneapolis.

Galloway, A. R. (2006) *Gaming: Essays on algorithmic culture*. Minneapolis: University of Minnesota Press.

Goriunova, O. (2011) 'Autocreativity and Organisational Aesthetics in Art Platforms' in *Fibreculture Journal.* 17/2011. http://seventeen.fibreculturejournal.org/fcj-115-autocreativity-and-organisational-aesthetics-in-art-platforms/ [Accessed 19 April 2012].

Hennessy, N. (2008) 'The Jabberwocky Engine' *E-Literature Collection* vol. 2. http://collection.eliterature.org/2/works/hennessy_pataphysical/jabber/jabber/index.html. [Accessed 9 April 2012].

Groys, B. (1992) *Über das Neue. Versuch einer Kulturökonomie.* Műnchen, Wien: Hanser.

Johnson, S. (1997) *Interface Culture. How new Technology transforms the Way we Create and Communicate*. New York: HarperEdge.

Kac, E. (ed.) (2007) *Media Poetry: An International Anthology*. Bristol, Chicago: Intellect.

Lazzarato, M. (2003) *Struggle, Event, Media*. trans. by Aileen Derieg. http://eipcp.net/transversal/1003/lazzarato/en [Accessed 19 Dezember 2010].

Manovich, L. (2002) 'Generation Flash'. http://www.google.com/search?-client=flock&channel=fmw&q=manovich+generation+flash&ie=utf-8&oe=utf-8&aq=t [Accessed 13 May, 2012].

Manovich, L. (2001) *The Language of New Media*. Cambridge, MA: The MIT Press.

Morris, A. & Swiss, T. (eds.) (2006) *New Media Poetics : Contexts, Technotexts, and Theories*. Cambridge, Mass., London: The MIT Press.

Quaranta, D. (2011) 'The Postmedia Perspective' *Rhizome.org*. Editorial. http://rhizome.org/editorial/2011/jan/12/the-postmedia-perspective/ [Accessed 19 March 2012].

Snow, C. P. (1959) *Two Cultures*. Cambridge: Cambridge UP.

Striphas, T. (2011) *Who speaks for culture?* http://www.thelateageofprint.org/2011/09/26/who-speaks-for-culture/ [Accessed 26. September 2011].

Vesna, V. (2001) 'Towards a Third Culture or Working in Between' in *Leonardo* 34.2 (2001):pp. 121-125.

Virno, P. (2004) *A Grammar of the Multitude. For an Analysis of Contemporary Forms of Life*. trans. Isabella Bertoletti. New York: Semiotext(e).

EVALUATING DIGITAL LITERATURE: SOCIAL NETWORKS, SELECTION PROCESSES AND CRITERIA

Alexandra Saemmer

Introduction

The first experiments in digital literary forms started as early as the 1960s. From then, up to the mid-90's, was a period that, according to Chris Funkhouser (2007), can be considered as a 'laboratory' phase. The rise of the Internet has resulted in the proliferation of creative proposals. The first involves indexing creative works in the form of databases, sometimes giving access to hundreds of works without any hierarchical order. Since 2000, digital literature has been experiencing a new phase, marked by the creation of anthologies. Over the years, the evaluation and selection criteria have proved to be as problematic as they are necessary for these projects. The main issue of this paper is to provide a critical discussion of these criteria.

I will first compare the corpus of two founding initiatives, i.e. collections 1 and 2 edited by the Electronic Literature Association (ELO)[1] and the 'improved sheets' published online by the Canadian nt2 laboratory[2], in order to bring out a list of works commonly considered as 'worthy' by these communities. I will then put the positions of four important players of this field into perspective: Bertrand Gervais (director of the nt2 lab), Scott Rettberg (co-editor of the first ELO collection and leader of the European ELMCIP project devoted to digital literature[3]), Laura Borràs (co-editor of the second ELO collection and director of the Hermeneia research group[4]) and Brian Kim Stefans (co-editor of the second ELO collection, and author of various works presented in the ELO collections and nt2 'improved sheets'). In spring 2011, I questioned them about their initiatives and their selection criteria. In the 'crossed corpus' of ELO and nt2 works, I will finally identify these selection criteria through a semiopragmatic methodology.

Two anthologisation initiatives

Within the Electronic Literature Organization, the Electronic Literature Directory is responsible for the building of a corpus, which is presented on the website in the form of descriptive sheets. Everyone may participate in the project by proposing a database entry. An editorial board then decides to validate the said sheets or not. In order to facilitate the selection, a list of the main genres of digital literature is proposed on the website, which includes:

- hypertext poetry and fiction
- kinetic poetry
- computer-based art installations 'which ask viewers to read them or otherwise have literary aspects'
- chatterbots
- interactive fiction
- novels that take the form of emails, SMS or blogs
- poems and stories 'that are generated by computers', either in an interactive way or based on set parameters

- collaborative writing projects that allow readers to contribute to the text of a work

- online literary performances 'that develop new ways of writing'

The Directory underlines the role of the computer as a creative device and thus excludes literary forms in which the computer is only used as a publishing tool. However, the definition of a literary value based on its 'predominant literary aspects' seems somewhat tautological.

The evaluation system for the ELO database is intended to be 'networked'[5]. Each sheet is signed by an author and approved by the editorial board. Readers can leave comments to discuss its content: 'The critical discussion around works, by other creators as well as critics, allows the work's value to be recognised and establishes an e-lit author's credentials', the association affirms.

A second ELO initiative makes the issue of the creation of an anthology even more explicit, as the association has already published two 'collections' of digital literature (one in 2006 and the other in 2011). Although they are entirely available online, they have also been released on DVD. N. Katherine Hayles, Nick Montfort, Scott Rettberg and Stephanie Strickland selected the first forty works. The second volume was edited by Brian Kim Stefans, Laura Borras, Rita Raley and Talan Memmott[6].

In 2002, the Canadian nt2 laboratory launched another major initiative in this field[7]. The 'répertoire des arts et littératures hypermédiatiques[8]' currently hosts more than 3000 files containing a brief description of each work, as well as screenshots and indexing terms. The entries are written by the lab members. Readers cannot leave comments – they can only suggest a work. Bertrand Gervais explains that in 2002, it seemed possible to establish a thorough index of digital arts and literature. In 2006, as the number of productions literally boomed, one had to give up this objective. Therefore, it seemed more interesting to focus on the effects of 'institutionalisation' induced by the directory. The lab decided to give new impetus to these effects by adding analytical components and evaluation criteria. In order to show that 'all these works are unequal', the committee came up with an idea, i.e. to identify 'the hundred best works'.

These works are selected by a committee (which consists of the general director of the lab and its coordinator, its technical director and 4 to 6 students) and presented within the directory in the form of 'improved sheets'[9]. These files include a video screenshot taken during a running of the work, a bio-bibliography and a critical corpus of articles and references showing that the work has already been 'approved' by peers.

As I compared the list of 121 works published in the ELO collections and the 142 'improved sheets' edited by the nt2, I got a 'cross corpus' approved by both communities:

- A corpus of works selected as part of the two anthologisation initiatives: Robert Kendall, *Faith*; Donna Leishman, *Deviant: The Possession of Christian Shaw*; Michael Mateas and Andrew Stern, *Façade* ; M.D. Coverley, *Accounts of the Glass Sky* ; Daniel C. Howe and Aya Karpinska, *open. ended*; Stephanie Strickland, Cynthia Lawson Jaramillo and Paul Ryan, *slippingglimpse*; Reiner Strasser and M.D. Coverley, *ii -- in the white darkness: about [the fragility of] memory*; Brian Kim Stefans, *The Dreamlife of Letters*; Michael Joyce, *Twelve Blue* ; J. R. Carpenter, *Entre Ville, in absentia*; William Poundstone, *Project for Tachistoscope*; Patrick-Henri Burgaud, *Jean-Pierre Balpe ou les Lettres Dérangées*.

- A corpus of authors selected as part of the two initiatives for different works: Dan Waber, Jim Andrews, Stuart Moulthrop, Eugenio Tisselli, Annie Abrahams, Jason Nelson, Shelley Jackson, David Jhave Johnston, Kate Pullinger, Alan Bigelow, David Clark. The divergence between the selections of works can be partly explained by the different selection processes: ELO made a call for proposals and physically hosts the works on the website of the association, whereas the nt2 directory only redirects to the servers on which the works have been published.

Despite these different editing strategies, the number of commonly approved works is quite impressive. What have been the selection criteria, and how do the four players situate these initiatives in relation to the concepts of 'legitimisation', 'institutionalisation' and 'canonisation' often associated with anthology projects?

Legitimisation, institutionalisation, canonisation?

In her seminal book, Astrid Ensslin (2007) traces the history and evolution of the concept of canonisation. In the field of literature, the term refers to a compilation of works that are considered as normative during a certain period. Although tastes and values change, a canon is defined by its persistance throughout this approval period (Assmann 1987). Digital literature resists any claim for physical permanence because of the lability of the device (see Saemmer 2009, Bootz 2008). The very definition of the term 'canon' therefore needs to be reconsidered. According to Brian Kim Stefans, preservation projects may positively account for the institutional dimension of canonisation. Scott Rettberg emphasises the involvement of the ELO in the preservation of the works presented in the collections. Bertrand Gervais also agrees to use this meaning of the term 'canonisation' for the nt2 initiatives.

Moreover, the four players particularly focus on the issue of 'legitimisation' raised by the anthologies. This 'legitimisation' requires a big enough audience that the digital literary works be recognised by peers (Viala 1993: 11-31). According to Scott Rettberg, digital literature has gained recognition in the academic field. However, it is still largely absent from the curricula of primary and secondary schools (See the chapters in *Reading moving letters* (2009) dedicated to the issue of the teaching of electronic literature). Anthologies might make up for this lack by making these works 'exist' (Scott Rettberg), proposing definitions (Laura Borràs) and highlighting the most 'convincing' works (Bertrand Gervais).

This valuation is not exclusively based on selection processes. It also includes the creation of a critical apparatus, pedagogical skills (see ELMCIP project) and partnerships with institutions (libraries and museums). It sometimes brings up identity issues. Bertrand Gervais explains that the selection of works proposed by the nt2 is also driven by the wish to promote digital literature in the French language. Laura Borràs fights for the creation of an anthology of Catalan digital literature. An anthology of European works has been edited as part of the ELMCIP project.

Literary and aesthetic selection criteria

Which literary and aesthetic criteria have been considered for the ELO and nt2 anthologies? A first criterion is based on the technological aspects of digital literature. Laura Borràs affirms that the variety of devices used by the authors (desktop computers, touchscreen tablets, 3D projection spaces, etc) has played

an important role in the selection of works for the second ELO collection. Scott Rettberg emphasises the importance of the close relationship between the linguistic components and procedural properties of the computer, which may 'cause provocative reading experiences'. This assertion also raises the question of the poetic value of the computer code (see Wardrip-Fruin 2009: 35).

According to Bertrand Gervais and Laura Borràs, the 'representativeness' of a work should also be defined in relation to the history of the forms and genres in 'paper' literature. Many 'historic' e-lit works are closely linked to various twentieth century Avant -gardes, which had been defying literary traditions and genres long before the creation of the computer.

Brian Kim Stefans insists, in particular, on the importance of the 'aesthetic quality' of a work as a selection criterion. According to him, this quality has nothing to do with 'beauty'. Stefans cites the opportunity to create 'non-illustrative' interactions and animations and generate 'tensions' between semiotic systems. In animated poetry, word and movement could, for example, contradict each other instead of forming redundant couplings: a word conveying ideas of beauty and grace may also burst and induce violent motions. This 'mismatch' cannot be conceived outside the reading contexts of a work. What is more, it sometimes has political connotations.

By challenging the reader's expectations, some authors indeed propose an implicit reflection on the specificities of media discourse, on its ravishing or alienating, immersive or exhilarating nature. These 'meta-theoretical' or 'reflexive' dimensions constitute the ultimate evaluation criterion for the works mentioned by the four players, even if some of them may well be misused. Brian Kim Stefans points out that a 'canon should be a corpus of works aimed to give literary inspiration, not theorise new concepts'.

To what extent are the works jointly selected by ELO and nt2 representative of these criteria? What methodologies could be used to identify these criteria in these works?

Methodological elements for an evaluation of digital literary works

The unexpectedness criterion in text animation

As stated by Brian Kim Stefans, digital literature often experiments with unexpected combinations of text, movement and 'manipulation' gestures. In order to situate this unexpectedness in the cross-referenced corpora of works, I will resort to a semio -pragmatic methodology that borrows some of its main concepts from Reception theory.

The objective of Reception theory, as stated by Wolfgang Iser (*Der Akt des Lesens* 1976), is to study the reading practice as an individual and social co-construction of meaning. On the one hand, the act of reading is influenced by a set of individual and socially shared elements, which form the reader's 'horizon of expectations' (Jauss 1990). On the other hand, the act of reading is guided by the 'repertories' and 'strategies' (Iser 1976: 127) of the text and 'dispositif' ('device') (Jeanneret/Souchier 2008), which anticipate a mode of reception.

In animated texts, the same support combines texts with icons. In order to circumscribe the (un-)expectedness of text animation, it is important to consider the expectations potentially raised by the textual elements, and the action potential induced by motion. As pointed out by Brian Kim Stefans, there seems to be a 'tension' between motion and text in many works of the corpus. But how can we situate more precisely the action potential of a motion – that is to say its potential reception by the reader – in order to evaluate the potential unexpectedness of such an intersemiotic coupling?

Dan Waber is featured in both the first ELO collection and the 'improved sheets'. His collection of poems entitled *Strings* is based on handwritten words set in motion. In the animation 'haha'[10], the static word is first characterised by sound iconicity: the repetition of the same phonemes is supposed to reproduce the sounds of human laughter. The movement seems to emphasise the representation of the referent: the word 'haha' sometimes moves cyclically from left to right, slowing down before coming back with force; the letters are growing and shrinking at the same pace, following a delta-shaped movement. At first sight, this animation may be considered as redundant, and does not fit with the intersemiotic tension and indeterminacy criteria pointed out by Brian Kim Stefans. Now let us examine it a little bit closer.

While visual representation seems to imply a resemblance to things, linguistic reference seems to exclude it. 'We show through resemblance, we speak through difference', states Michel Foucault (1973: 39). This radical assertion, which recalls the way Ferdinand de Saussure defines the arbitrariness of the linguistic sign, must obviously be further qualified. One of the elementary forms of textual 'iconicity' is based on the assumption that the 'sound' system could reflect the 'meaning' system: onomatopoeia seems indeed close to its extralinguistic referent. A secondary form of iconicity in language is visual: the font and colour of a text can be used and perceived on an iconic level. On digital supports, the text is also characterised by motion.

The semiotic approach to music, developed at the French MIM laboratory, proves to be helpful to describe the action potential of these iconic signs. The lab has identified 16 Temporal Semiotic Units. These units are commonly recognised by listeners because of their properties based on rhythm and repetition. The MIM researchers have decided to name the Temporal Semiotic Units after their main characteristics and have given a semantic description of each of them. The unit called 'obsessional', for example, is so called because of its insistent nature[11]. The unit 'by waves' is characterised by the slow repetition of a delta-shaped sound pattern, its energy at first increasing, before decreasing, then increasing again, and so on and so forth[12].

I consider, as do researchers like Philippe Bootz (2007), the semiotic units as parts of a general semiotic system based on temporality, which can be implemented through sound, texts or images. One of the possible visual equivalents of the unit 'obsessional' would be a flashing light. Dan Waber's poem can be considered as a visual equivalent of the sound pattern called 'by waves'.

It is the iconic characteristic of a Temporal Semiotic Unit that allows the listener to recognise it. In this sense, it is based on the integration and stabilisation of previous experiences. In many cultural contexts, the readers may recognise the unit 'by waves' because they have already listened to the sound of waves, watched their motion, stared at an object carried by waves. They perceive the unit 'by waves' as a distinctive one, despite the visual differences between a left-to-right cyclical movement, or a repetitive growing and decreasing motion. The signified of this iconic sign recalls ideas such as stillness, regularity and endless cyclicality.

However, as we verbalise the signified of a temporal semiotic unit, such as the one called 'by waves', we should not forget

that an iconic signified is not an object for conscious thought, 'but rather a form the perceiving body starts resonating with' (Meunier 2006). In an animated text, whenever a linguistic sign and motion are combined on the same active support, two signs of a very different nature intermingle: the iconic sign refers to referents that have been experienced, while the linguistic sign is still characterised by its arbitrariness. Such an intersemiotic coupling can never be completely redundant.

Let us now observe how the iconic sign and the linguistic sign interact in Dan Waber's poem 'haha'. The word itself imitates the sound of human laughter and can therefore be considered as iconic. The coupling with the temporal unit 'by waves' activates the 'prolonged laughter' signified, because the cyclic back-and-forth propulsion indeed refers to the sound produced by such laughter. The movement not only seems to illustrate human laughter, but also to create the 'pretense' of its referent.

Yet, the motion called 'by waves' provides the pluricode coupling with regularity and continuity, making it fundamentally different from what the reader knows about and expects from human laughter. This 'tension' between the iconic signified referring to the idea of 'endless cyclicality' and the necessary limited duration of human laughter rather remind us of rhetorical tropes such as metaphors. Despite the first impression of personification that this poem conveys – because of its graphics and modulated rhythm – this pluricode tension potentially dehumanises the animation 'haha', thus offering a profound reflection on the fascination and pitfalls of iconicity in animated texts.

Such 'unexpected' couplings, between text and motion, may be considered as an important part of the literariness of every digital creation (Saemmer 2011): they potentially induce reactions of surprise, incitement or a state of reflexivity, and thus remind us of the 'spaces of indeterminacy' described by Iser, in which the reader's imagination is stimulated and unleashed. In the cross-referenced corpora, this kind of potential unexpectedness is also explored in text animations by Brian Kim Stefans, Robert Kendall, Jim Andrews, David Jhave Johnston and Alan Bigelow.

The 'unexpectedness' criterion in text manipulation

Digital literature does not only experiment with motion. Most works in the cross-referenced corpora are interactive and sometimes explore 'unexpected' combinations between a manipulable text, the related texts resulting from the manipulation gestures and the 'manipulation' gestures themselves. Again, we should try to define this unexpectedness more precisely.

Whenever the reader 'manipulates' an interactive text, a linguistic sign is coupled with an iconic sign, i.e. a series of gestures performed for a purpose. In many works of the corpus, the reader is invited to move the cursor over words or images, and then press a mouse button or tap the touchpad screen. This manipulation, based on a series of pressures and releases, is characterised by its brevity and its non-repetitivity. I would argue that such a series of interactive gestures constitutes the signifier of an iconic sign, which is called a Semiotic Unit of Manipulation. In a research project carried out at University Paris 8 (by Philippe Bootz, Serge Bouchardon and myself) we are currently trying to identify these Semiotic Units in the digital discourse in order to circumscribe the action potential of gestures in electronic environments. For instance, the unit called 'scratch' combines prolonged pressure gestures with a repetitive back and forth motion on an interactive zone. The unit called 'activate' is characterised by consecutive, brief and non-repetitive pressure and release gestures.

A Semiotic Unit of Manipulation is based on the integration and stabilisation of previous experiences (Klinkenberg 2000): for instance, the reader shall recognise the 'activate' unit because he/she has already experienced it by pressing the button of an electrical device, or by pushing any key on a keyboard... The 'signified' of the iconic sign does not differ from the referent that has been experienced. According to the cultural context, it may then recall ideas of immediate launch and release. This iconic potential of every Semiotic Unit of Manipulation also becomes meaningful in relation with the texts and images with which readers are invited to interact and with the potential interface changes, which more or less satisfy or challenge the reader's expectations.

The coupling of textual elements with a Semiotic Unit of Manipulation sometimes recalls the rhetorical figure of metalepsis used in paper texts. Jorge Luis Borges (1957: 85) summarises the readers' confusion when confronted with this figure in the following words: 'Such inventions suggest that, if fictional characters may become readers or spectators, there is no reason why we, their readers or spectators, could not become fictional characters'[13]. 'Follow me before the choices disappear.', this is what we can read on the first page of *Twelve Blue*, Michael Joyce's historical hyperfiction[14]. By activating the hypertext through a physical manipulation gesture, the reader may get the impression that he/she literally follows the character. Through iconicity, this coupling of text with gesture thus anticipates the reader's mental and (almost partly) physical immersion in the story. At the same time, it emphasises the ontological 'gap' between the two semiotic systems: the reader always consciously interacts with a text, not with actual things or human beings. In this respect, the pluricode coupling of a text with a semiotic unit of manipulation shall never be completely redundant.

In the white darkness is a work by Reiner Strasser and M. D. Coverley that is included in the two anthologies[15]. It thematises the slow decay of the memory of patients affected with Alzheimer's disease. Through a graphical interface consisting of white circles and lines connecting these circles, the reader is invited to activate images and fragments of text. The iconic characteristic of the gesture refers to ideas of immediate launch and release. The reactions of the interface only partly confirm the reader's potential expectations, resulting from his/her being use to retrieve information, among other causes. These reactions are very slow and never satisfy the desire to 'learn more'. By confronting the reader with a magma of fragmented texts and images, this work not only makes us literally feel how the memory of patients affected with Alzheimer's disease functions – it also offers a critical reflection on what we expect from hypertext and the Internet, on our impatience and our desire to click to get an immediate result.

Such potentially 'unexpected' couplings of text with manipulation gestures and related texts may be considered an important part of the literariness of e-lit works, confronting us with essential and existential themes while defying our habits and expectations. In the cross-referenced corpora, works by Annie Abrahams and Patrick Burgaud meet this 'unexpectedness' criterion in a particularly striking way by preventing the reader from clicking as fast as they would like to (Annie Abrahams, Separation/Séparation) or by the unpredictable behaviour of the letters on the screen (Patrick Burgaud, Jean-Pierre Balpe ou les Lettres Dérangées).

The deviation criterion of genre conventions

Twentieth century avant-gardist movements were characterised by a critical reflection on the writing medium, its formal characteristics, publishing and the distribution processes of the literary text. When Jean Clement argues that in hyperfiction and programmed literature, 'the refusal of the temptation to create meaning also refers, in some cases, to an appeal against the established order of literary tradition and language itself' (Clément: 3) he defines these creations in relation with literary movements that had transgressed the 'classical' taxonomy before the arrival of the computer.

The digital network arose in the cultural context of the 70s. The action potential of the delinearised 'rhizome', inspired by the paradigms of postmodern philosophy and the Nouveau Roman, is explored by MD Coverley in *Accounts of the Glass Sky* and Michael Joyce in *Twelve blue*. The programmatically entitled work *Ulysses 101* by David Clark, Chris Mendis, Mary Beth Carty and Jennifer Banks, confronts the reader with a triptych of randomly displayed film sequences combined with fragmented texts. The extreme decoherence between these elements not only challenges the limits of the 'traditional' novel, but also the very boundaries of digital textuality.

While some works of the cross-referenced corpora are closely linked to issues tackled by the twentieth century Avant-garde, other authors challenge the reader's expectations raised by digital creation itself, as is the case with video games. To pass 'level 1' in Jason Nelson's *Game, game, game and again game*[16], whose hand-drawn graphics already subvert the player's expectations, the player must guide a little creature by using the arrow keys of the keyboard. Whenever the player makes the creature jump over a precipice, it explodes. Should the player fail or refuse to make it jump, the creature falls into the abyss, to come dangerously close to the sun. It will however always safely land onto a new platform, allowing the player to move on to level 2 whatever he does.

The coupling of the manipulation gestures with the differential between the initial images and the changes in the interface, resulting from the manipulation gesture, potentially meet the expectations of a player accustomed to the world of video games. Nevertheless, the purpose of these interactions certainly defies his/her expectations: usually the player loses a life when the creature falls into the precipice (c.f. Mario games).

Does Jason Nelson simply defy game conventions or is this game likely to be interpreted any further? The author affirms that this game is also about exploring 'belief systems'. The first level is called 'the fundamentalist or obsessively charmed by the sun'. Indeed, the player's rationality is strongly challenged. Some works in the corpus potentially involve the reader in a critical exploration of genre issues and societal phenomena, therefore meeting both the criteria of the 'deviation from literary conventions' and 'reflexivity'.

The technological innovation criterion

The presence of the last category of works in the corpus might be primarily justified by technological innovation. Stuart Moulthrop's *Reagan Library* (1999) was among the first to combine textual narrative threads with spatial representations, which can be explored through panoramic browsing. In *open.ended*, Daniel C. Howe and Aya Karpinska experiment on the display of a text on an interactive three-dimensional cube. The multiplicity of possible combinations prefigures a new form of spatial combinatory logic. Eugenio Tisselli's *Degenerative* confronts the reader with a text that 'deteriorates' a little bit more with each visit: whenever a reader activates the work, an element of the html code is erased or replaced. By its instable nature, this work proposes a reflection on the lability of digital literature; its literary value primarily comes from the creative work on the code. Michael Mateas and Andrew Stern explicitly present their interactive drama *Façade* as both an art *and* research project resorting to artificial intelligence technologies. The main interest of this creation does not so much lie in its graphics or its general storyline as in the fluency with which the avatars respond to the reader's interactions.

J. R. Carpenter's *In absentia*[17] innovates in its use of geo-location processes, although the author warns the reader about the limits of this innovation. In this auto-fiction on spatial memory, geo-location points to real places by revealing their fragile nature. Markers have been placed on the Google map of Montreal. Stories about the neighbourhood are displayed as the player activates the markers. However, places change with each update of the Google Maps database. In the near future, those stories will fly over a city they will no longer have anything to do with.

Conclusion

Works such as *In absentia* are present in both anthologies and can be considered as 'legitimate' in the field of digital literature. They will however change over time. No one can tell what the future of Google maps will be. The 'canonisation' of digital works is thus challenged by the intrinsic instability of the device. Preservation initiatives, such as the video screenshots included in the nt2 'improved sheets' seem necessary to ensure the sustainability of this cultural heritage.

Jörgen Schäfer and Peter Gendolla (2009: 93) wonder if digital works generate a brand new literary value and if this value could possibly challenge the traditional aesthetic claims to perfection, consistency and stability. My answer to both these questions is yes. This new literary value requires that the notion of 'canonisation' be redefined or simply dropped. Should the latter option prevail, the integration of digital works into schools and universities curricula remains an important issue. Anthologies are likely to play an important role in this process. The selection criteria for these anthologies should be precisely and frankly discussed. We should indeed question the 'literariness' of digital literary works again and again - even when those criteria are endlessly re-adjusted to welcome surprising, innovative, disturbing, 'off criteria' proposals.

Notes

1. *Electronic Literature Collection* 1, (2006) http://collection.eliterature.org/1/. *Electronic Literature Collection* 2 (2011) http://collection.eliterature.org/2/
2. 'Répertoire des arts et littératures hypermédiatiques', category ' fiches bonifiées', http://nt2.uqam.ca/search/nt2_repertoire
3. http://elmcip.net/
4. http://www.hermeneia.net/
5. 'ELD 2.0: A Networked Evaluative System', http://directory.eliterature.org/networked
6. *Electronic Literature Collection* 1 (2006) http://collection.eliterature.org/1/ *Electronic Literature Collection* 2 (2011) http://collection.eliterature.org/2/
7. 'Répertoire des arts et littératures hypermédiatiques' http://nt2.uqam.ca/search/nt2_repertoire
8. 'Directory of the hypermedia arts and literature'.
9. 'Répertoire des arts et littératures hypermédiatiques', category 'fiches bonifiées' http://nt2.uqam.ca/search/nt2_repertoire
10. Dan Waber, 'Haha', http://collection.eliterature.org/1/works/waber__strings/haha.htm
11. Sound examples: http://www.labo-mim.org/site/index.php?2008/08/22/36-obsessionnel

12. Sound examples: <http://www.labo-mim.org/site/index.php?2008/08/22/42-par-vagues>

13. Translation by the author of this chapter.

14. http://nt2.uqam.ca/repertoire/twelve_blue/plus

15. http://nt2.uqam.ca/repertoire/in_the_white_darkness/plus; http://collection.eliterature.org/1/works/strasser_coverley__ii_in_the_white_darkness.html

16. http://collection.eliterature.org/2/works/nelson_game.html

17. http://collection.eliterature.org/2/works/carpenter_in_absentia/; http://nt2.uqam.ca/repertoire/in_absentia/plus>

References

Assmann, A. & Jan (1987) *Kanon und Zensur*. Munich: Fink.

Bootz, P. (2008) 'Une poétique fondée sur l'échec' in *Passages d'encres* 33. Paris. pp. 119-122.

Bootz, P. (2007) UST et a-média dans passage. poesienumerique.free.fr/theorie/bootz/bootz-passage-v2.pdf

Clément, J. 'Hypertexte et fiction : une affaire de liens' http://hypermedia.univ-paris8.fr/jean/articles/Lien.pdf>.

Electronic Literature Collection 1 (2006) http://collection.eliterature.org/1/

Electronic Literature Collection 2 (2011) http://collection.eliterature.org/2/

Ensslin, A. (2007) *Canonizing Hypertext*. London: Continuum.

Foucault, M. (1973) *Ceci n'est pas une pipe*. Paris: Fata Morgana.

Funkhouser, C. T. (2007) *Prehistoric Digital Poetry. An Archeology of forms*. Tuscaloosa: The University of Alabama Press.

Gendolla, P., Schäfer, J., & Simanowski, R. (eds.) (2009) *Reading Moving Letters: Digital Literature in Research and Teaching*. Bielefeld: Transcript.

Iser, W. (1976) *Der Akt des Lesens*. Minuch: W. Fink.

Jauss, H. R. (1972) *Pour une esthétique de la réception*. trans. by Maillard, C. Paris: Gallimard.

Jeanneret, Y. & Souchier, E. (1999) 'Pour une poétique de l'écrit d'écran' in *Xoana* 6. Paris. pp. 97-107.

Klinkenberg, J. (2000) *Précis de sémiotique générale*. Paris: Seuil.

Meunier, J. (2006) 'Pour une approche cognitive de la signification iconique' in Darras, B. (ed.) *Images et sémiotique : Sémiotique pragmatique et cognitive*. Paris: Publications de la Sorbonne. pp. 131-146.

MIM, Laboratoire Musique et Informatique de Marseille. http://www.labo-mim.org/

nt2 (laboratoire) *Répertoire des arts et littératures hypermédiatiques*. http://nt2.uqam.ca/search/nt2_repertoire

nt2 (laboratoire) *Répertoire des arts et littératures hypermédiatiques* catégorie 'fiches bonifiées'. http://nt2.uqam.ca/search/nt2_repertoire

Répertoire Hermeneia. http://www.hermeneia.net/fra/espais/literatura.html

Saemmer, A. (2009). 'Aesthetics of surface, ephemeral and re-enchantment in digital literature. How authors and readers deal with the lability of the electronic device' in *Neohelicon* 36. pp. 477-488.

Saemmer, A. (2011) 'De la confirmation à la subversion: Les figures d'animation face aux conventions du discours numérique' in *Protée* 39.1. pp. 23-36.

Saemmer, A. (2012) 'La littérature numérique entre légitimation et canonization' in *Culture et musées* 18. pp. 201-223.

Viala, A. (1993) 'Qu'est-ce qu'un classique?' in *Littératures classiques* 19. pp. 11-31.

Wardrip-Fruin, N. (2009) 'Five elements of Digital Literature' in Gendolla, P., Schäfer, J. & Simanowski, R. (eds.) *Reading Moving Letters: Digital Literature in Research and Teaching*. Bielefeld: Transcript. pp. 29-57.

ARTISTS' VOICES

EMBODIED ALGORITHMS: ON SPACE AND MOBILITY AS STRUCTURAL METAPHORS[1]

Romy Achituv

This short paper proposes the concept of 'embodied algorithms' to describe the use of models borrowed or derived from other disciplines as structural metaphors in works of art. The models may originate in fields as diverse as phenomenology, linguistics, or computer science, and while they may not themselves be computational or procedural, their cross-disciplinary/cross-modal implementation imbues them with a symbolic dimension that suggests a hermeneutical methodology (hence, 'algorithm') for constructing interpretive narratives.

The paper examines the constitutive role played by space and mobility in interpreting a series of the author's own artworks. For the sake of brevity, it focuses primarily on a single interpretive model derived from the writing of phenomenologist Georg Gadamer, and relates it to a number of digital models, or algorithms, employed in the works.

In his seminal work, *Truth and Method* (1975: 386-391), the German phenomenologist Hans Georg Gadamer speculated that it is in the movement between languages – in translations and interpretations – that new thoughts and meanings arise. From this perspective, translation might be said to represent a unidirectional trajectory: a leap, as it were, from one locale into another. Interpretation, on the other hand, could be described as a reciprocal motion between two locales, i.e., a form of paraphrase, with meaning generated in the course of perpetual motion between two semantic utterances.

The desire, and ability, to transcend the boundaries of one's locale are fundamental human characteristics. In *Laws* (1980: 33), Plato suggests that the origin of play lies in the need of the young to leap. Similarly, we might speculate that the ability to generate new thoughts and meanings, and indeed perhaps creativity itself, lies in the need of the mind to leap, to move beyond its own 'locale.' Novelty and creativity require not only space to maneuver, but also clear reference points. In other words, they require 'free-play,' the paradox of freedom within set boundaries.[2]

In a wide range of disciplines – phenomenology, psychoanalysis, and metaphysics, to name a few – motion and its relation to the attendant concepts of space and boundaries are considered fundamental for the production of meaning. If meaning is indeed predicated upon mobility (the motion between 'locales') then it may follow that hindering this motion, whether by restricting space or mobility itself or by frustrating the underlying desire to 'leap,' may undermine the very possibility of meaning.

The concept of movement between languages, which is constitutive of the dynamics of both translation and the broader search for meaning, is particularly pertinent to the interpretation of artwork, that is, to forging a relationship between image and word.

This model can be applied along two axes. The first relates to the spatial dynamic of spectatorship, which might be described as the reverberative, interpretive, motion between the spectator and the object of perception (the artwork), or, in phenomenological terms, between perception and cognition (a dynamic that also parallels the trial-and-error method of common scientific and creative practice). The second, or lateral, axis is internal to the artwork itself, forming the structural backbone of both its formal design and semantic reading.

The visual/physical representation of the relationship between space and mobility is a particular instance of a cross-modal 'import.' If we accept Gadamer's proposition, any structural model 'imported' into a work of art involves a process of translation, and is therefore a breeding ground for new ideas and interpretations.

Throughout the history of art, formal and structural features have expressed symbolic, religious, or philosophical ideas and ideals. Prominent examples include idealized canons of figurative representation from ancient Egyptian to European Baroque art, the analytical use of linear perspective in Renaissance painting, and stylistic devices that define the major 'isms' of modernism, such as the impressionist brushstroke, the cubist and futurist fragmentation of space and motion, and the diverse individual solutions invented by the American Impressionists (or their critics) in their pursuit of 'flatness.'

In art that has been canonized by the traditions of art history, the meaning of these devices is more or less fixed. It is presented as the interpretation either of *a priori* symbolism or implicit, yet uncontestable, intentionality (as in the dictums of Clement Greenberg). On the other hand, the more idiosyncratic the structural foundation of an artwork, the more it can be regarded as part of the distinct semantic palette of the artist. Furthermore, when the artist employs structural models that do not carry *a priori* cultural associations and allusions, their symbolic or metaphorical potential may become apparent only during, or even after, their implementation.

Following is a series of examples that explore the means by which various 'embodiments' of space and mobility guide interpretation of the artwork. In selecting these examples, I have



Muse (1984), *MUTE* (1984).

followed a route, by no means exhaustive, from physical 'analog' media (sculpture and photography), through digital time-based media (an interactive screen-based application), to works in which digital paradigms have been applied back to physical media.

Muse[3] and *MUTE*[4] (1984) are sculptural plaster mask-like heads that manifest space and motion in complementary, yet diametrical ways. *Muse* is constructed on a series of paraphrases that actualize the very concept of paraphrase. The piece suggests that the structure of paraphrase is predicated on distance, boundaries, and movement, and then recursively offers this structure as a spatial model for interpreting itself.

In *Muse*, two protruding elements 'sit' on the surface of a head -like object and define its features: a worm-shaped ear and an abstracted feminine figurine. The head itself is precariously balanced upside down, i.e., 'on its head.' The full name of the piece inscribed into the base, 'מיוז און HED' (phonetically pronounced 'Muse On Head'), conjures multiple puns, both visual and linguistic. Written half in Hebrew and half in English, and intentionally misspelled, it requires transliteration and translation back and forth between the two languages to be in any way coherent. It can then be taken to mean 'muse on head,' 'a museum head,' or 'museum's echo.' The name references Brancusi's famous *Sleeping Muse*, as well as the muse of the artist, and hence evokes the idea of creative inspiration.

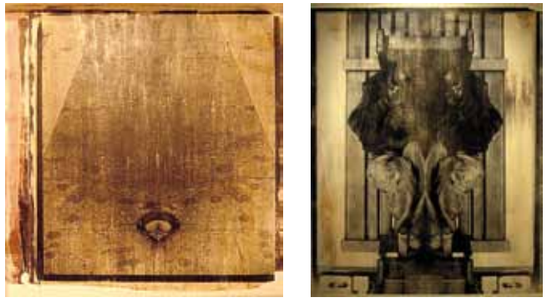
The 'head' therefore relies on a series of echoes (*hed* in Hebrew), interpretive reverberations that generate a variety of meanings in the course of back and forth translations (motion) between visual and linguistic phrases and paraphrases. The muse itself (both the figurine on the head and the piece as a whole) embodies this notion by countering the balanced state of rest of Brancusi's sculpture. Placed at one focal point of an elliptical base and tilted toward the other, it manifests the inability to occupy a centre, or a state of continual unrest, of perpetual longing. Thus, creativity is construed here as a frustrated dynamic, a constricted back and forth motion or resonance between two anchor points, between origin and destination, between signifiers/signifieds that perpetually point to each other.

MUTE, similarly a paraphrase of Brancusi's *Sleeping Muse*, is another almost featureless, mask-like sculpture of a head. But where *Muse* suggests that distance, boundaries, and movement are essential for the production of meaning, *MUTE* speaks to the effect of their negation. *Muse* offers motion, and *MUTE* thwarts it, and in so doing suggests a reading of the relationship between its explicit subject matter, the mute, and the symbolic representation of space and motion. Moreover, by visually embodying a negation of the spatial relationships represented in *Muse*, it can be said to be a paraphrase of the structure of paraphrase.

The head-like form bears an engraving of the outline of a hand extending across the face from the eye on one side to the ear on the other. Thus, the hand, which serves the mute subject as a tool with which to sign and engage in social discourse, as their primary means of extending into the social sphere, is symbolically turned back upon itself and denied spatial presence.

The collapse and inversion of the hand alludes to the stigma which prevents the individual from reaching out into the social sphere. This evokes the oppressive invalidation that lies at the heart of such stigma, an invalidation that denies the individual entry into language and the social dialogue required to establish their identity. *MUTE* thereby reifies the social gaze and its effect by 'importing' the spatial relationship of spectatorship into the physical artifact.

A similar structural device is employed as an editing principle in the *Homelessness: Architecture of a City*[5] project (1995-96), a photography series about homelessness in New York. Comprised of composite images that combine edited portions of photographs with their mirror-images, the works in the series create the illusion of a continuous space, with the figures appearing to be either doubled or reproduced through the symmetrical conjunction of their parts (The images were produced as temporary, graffiti-like murals printed directly on the walls of the exhibition space.)



Homelessness: Architecture of a City (1995-6). *Clam* and *Caryatid.*

The underlying aesthetic, formal, principle in this series is the doubling effect that equates image and reflection, creating composite figures within locked-in spaces. The singular (casual) reference of the optical photographic process is invalidated as multiple identical images are contained within one continuous space. When the integrity of the spatial illusion is maintained, these photographs may paradoxically come to indicate absence: the absence of individuality as the presence of anonymity. As in *MUTE*, the spatial constraint imposed by the rigid structural composition implies the paralyzing prescriptive power of social stigmas, and the restrictions they inherently place on the mobility necessary for the formation of identity.

In all the examples offered above, the production of meaning relies on a symbolic reading of space and motion. In terms of Gadamer's model, this symbolic dimension may be said to reflect the conceptual space, or fissure, opened up by the act of aesthetic representation, that is, by the dynamic of interpretation implicit in the cross-modal translation of concept to visual language.

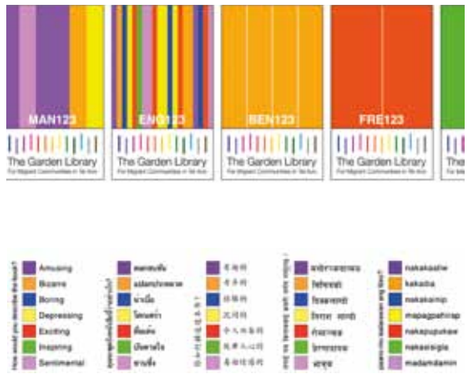
In sculpture and photography, expressions of the space-mobility relationship are necessarily representational. With time-based and interactive media, however, space and mobility are attributes of the media itself, and are therefore devoid of representational value. Non-linearity, for example, lies at the structural heart of digital technologies, and therefore, non-linear manipulation of space and motion does not, in and of itself, generate a representational relationship. In other words, it does not involve an act of 'translation,' but is simply a manifestation of what might be called 'standard digital behavior.' Consequently, for space and mobility to factor into the meaning attributed to works of digital media, they need to be structured (or rather constrained) in a manner that resonates with the subject matter of a given piece.

BeNowHere Interactive (*BNHI*, 1997)[6] is an example of an interactive installation in which constrained spaces and restrictions on interaction and mobility play a central role in directing the semantic reading of the piece. Employing a slit-scan photography technique, an active video window moves across the screen leaving a visual trail of the time and space of the cinematic path. The visible traces reconstruct panoramic landscapes, transposing the flow of time of the video stills into a panoramic spatial illusion.

The user can maneuver back and forth within the encapsulated -time modules by triggering new frames, new panoramic stills, and then stepping back to view the scenes unfold and come alive. This act of engaging with the *BNHI* application is an act of disruption. Every instance of interaction introduces a new spatiotemporal moment (a new frame) that fragments the integrity of the existing scene, determining a new beginning which, left uninterrupted, will activate a panoramic sweep that will create a coherent scene – at the expense of erasing everything it traverses along the way.

BeNowHere Interactive (1997).

The installation integrates twelve one-minute, 360-degree video panoramas filmed at four UNESCO World Heritage cities: Jerusalem, Dubrovnik, Angkor-Wat, and Timbuktu. The endangered status of the sites, which are threatened with imminent destruction by natural, social, or political circumstances, endows the scenes with the quality of time-capsuled specimens presented to the viewer/user for dissection and exploration.



The Garden Library for Migrant Workers (2008).
History stickers (Mandarin, English, Bengali, French).
Emotional categories stickers (English, Nepalese, Mandarin, Thai, Tagalog).

In this digital work, the structural attributes of the application take on symbolic implications. The looped time capsules echo the locked-in spaces depicted in the *Homelessness* project. The panning shot that seemingly has no beginning and no end, that perpetually unfolds back and forth in time, erasing itself while mirroring itself, implies a duration trapped, as it were, out of time. Moreover, although the motion appears to enable space to continuously unfold within the constrained duration, it is only an illusion created by the systematic mapping of frozen moments of time onto a spatial axis. Thus, the panning motion that repeatedly freezes slivers of space echoes the fact that the panoramic shot is itself frozen in time.

In addition, in contrast to most interactive games, artwork, or practical applications, user engagement with the installation does not advance the 'narrative flow.' Rather, by disrupting the illusion of continuous space, the non-linear interventions underscore the fragility and transience of the spatial coherency, thereby alluding to the subject matter of the piece.

Here, the very characteristics of non-linearity typified in random access data retrieval – the computer process of accessing data non-sequentially – the same characteristics that imply overcoming the constraints of time, are turned back on themselves (in a sense, paraphrased). It could be said that the power of the medium itself becomes the constraint imposed on the application.

As a procedural feature intrinsic to the medium, random access has no inherent semantic value. It acquires meaning in *BNHI* only by virtue of its structural affinity with the programmed interactive behavior of the work.

In contrast, the 'unstable' indexing and cataloguing system of *The Garden Library*[7], a public library serving the migrant communities of Tel Aviv, is a physical, cross-modal manifestation of a non-linear algorithmic paradigm. An open-air structure situated in the heart of a public park in the center of Tel Aviv, it was established in 2009 to serve the community of refugees and migrant workers who congregate in the park on weekends. The library has no walls or door, and is comprised solely of two bookcases supported by the walls of a public shelter that hold approximately 3,500 books in sixteen languages.

ARTEAM, the artists' collective that initiated and produced the library[8], sought to break away from traditional categories of classification and to realize a sorting and indexing system that would playfully manifest the values of an open society. Accordingly, the books are not catalogued according to genre or author name, but dynamically, according to reader input. On the inside back cover of each book is a sticker that asks, 'How would you describe the book?' and offers seven options: amusing, boring, bizarre, depressing, exciting, inspiring, sentimental.

When returning a book, the reader is asked to choose the word that best describes the emotion it evoked, and the color-coded adjective is added to the past history of responses on the spine of the book. The book is then placed on the shelves according to its latest emotional classification. In other words, the placement of the book is not decided by popular vote, but by the last reader, using a dynamic system that everyone can impact and in which every participant's input counts. The cataloguing system continually restructures the layout of the book collection, creating at any given point in time a transient 'wandering map' that reflects the readers' opinions and preferences.

The fluid indexing system reflects the shifting demographics and constant changes that result from the transient nature of

the communities that patronize the library. At the same time, it empowers each individual reader, enabling them to determine the mobility of every book.

ARTEAM thus sought to apply the non-linear algorithmic logic of digital technologies to the physical holdings of the library, transforming the book collection itself into a database that is habitually restructured on the basis of user input. The cross-disciplinary, cross-modal, application of the algorithmic procedure to the library's physical collection creates an interpretive space that directs attention to the structure of the cataloguing system.

Fruits of Labor (2012-13).
Heaven Lake and Baekdu Mountain).
Rice husk and rice husk ash.

The system transforms the library into a small, parallel world in which the books wander between the shelves as their readers wander the world, carrying with them their emotional history. Thus, *The Garden Library*'s cataloguing system offers a dynamic, interactive structure that mirrors the transience and mobility of its users, while at the same time affording these otherwise disenfranchised individuals agency over the system itself (Achituv 2011).

The systemic, algorithmic manipulation of space in the *Fruits of Labor project* (2012-13) consolidates many of the ideas discussed thus far, implementing them on a larger public stage. The notions of constricted mobility and transience, as well as the structural confines of the computer matrix and automated computer processes, all come together to construct a complex metaphorical system that alludes to the oppressive and isolationist practices of North Korea and the dire hunger they have begotten.

Fruits of Labor is a large-scale participatory performance planned for production in South Korea over the course of the coming year. It is semantically structured around the metaphorical meaning of rice husk, or chaff, a by-product of grain processing. The word is used in this metaphorical sense, for example, in the common expression 'to separate the wheat from the chaff' (taken from Matthew 3), and in Psalm 1:4, 'Not so the wicked. They are like chaff which the wind blows away.'

The event will involve between two and three hundred 'farmers' – a broad range of volunteers, including a core group of North Korean expats. Each participant will carry a distribution device containing pouches filled with rice husk of various shades, produced from a mixture of rice husk and rice husk ash. A series of grids will be projected sequentially on the ground. Each cell (or 'pixel'), approximately 1.5cm square in size, will display the index number of its required monochromatic shade. The participants will 'sow by numbers,' line by line, moving in parallel rows across the grids and from one grid to the next, gradually creating a 'print' of Heaven Lake and Baekdu Mountain, the national symbol of North Korea.

The scale of the project requires a systematic approach to producing the image that involves strictly regulating and choreographing motion through constricted space. The large number of participants will be directed to move in unison, simulating a series of out-sized printer heads or agricultural machines.

While the image emerges through methodical step-by-step accretions of motion, the individuals within the system are deprived of agency, their mobility wholly dominated by the orchestrated movement, the algorithm directing the process of production. They sow the field blindly, matching numbers to hues of infertile seeds, with limited perspective of the whole as it slowly comes into being.

As spectators of their own actions, however, they move along the axis of translation, from number to hue, from projection to feather-light husk, possibly recognizing in the course of the repetitive, reiterative, task a narrative suggested by their actions. We may hope, with Gadamer, that from this movement between languages, new thoughts and meanings may arise.

Notes

1. This article builds on ideas first presented by the author in *Locality in the Age of Virtual Transcendence*, a curatorial essay for Between Man and Place, an exhibition of contemporary art from Korea and Israel, Ssamzie Space, Seoul, S. Korea (December 2005), and in the article 'Algorithms as Structural Metaphors: Reflections on the Digital-Cultural Feedback Loop', slated for publication in *Leonardo: Journal of Arts, Sciences, and Technology* in 2013. An excerpt from the article was published in the ISEA2011 conference proceedings.
2. The German *spiel* and the Hebrew equivalent *mishak* mean both 'play' and 'free-play.' In Hebrew the word *mishak* is derived from the root *sahak*, meaning laughter. Indeed, play, laughter, and freedom seem not only to be inseparable concepts, but to define the very parameters of human creativity.
3. http://www.gavaligai.com/main/sub/sculpture/MUSE/MUSE.html
4. http://www.gavaligai.com/main/sub/sculpture/MUTE/MUTE.html
5. http://www.gavaligai.com/main/sub/photography/Home/Home.html
6. http://www.gavaligai.com/main/sub/interactive/BNHI/BNHI.html
   credits: C programming consultant: Matt Antone; Footage: Michael Naimark and Interval Research Corp.)
7. http://www.thegardenlibrary.org
8. ARTEAM founding members are Romy Achituv, Marit Benisrael, Yoav Meiri, Hadas Ophrat, Nimrod Ram and Tali Tamir.

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References

Achituv, R. (2011) 'Algorithms as structural metaphors: reflections on the digital-cultural feedback loop' *ISEA2011*. Conference Proceedings, Volume 18, Issue 4.

Gadamer, H-G. (1975) *Truth and Method*. New York: Continuum Books.

Plato (1980) *The Laws of Plato*. Chicago: University of Chicago Press.

STRINGING DISTURBANCES IN POETIC ARRAY SPACES: READING BY CLOSE READING

Loss Pequeño Glazier

La Degramaticalidad Increíble – A Statement

I begin from the position that the range of practices, beyond grammar, extending from language as material – whether visual, aural, written, performance, or digital – is an open field. That is, I affirm the belief that there is room for all artists, for all experiments; that the field is closed to no one.

Starting from such a position, an ample vista is imagined. This can be seen in the permission granted by William Blake, Emily Dickinson, Walt Whitman, Federico García Lorca, Jorge Luis Borges, William Carlos Williams, Hilda Doolittle, Charles Olson, Robert Duncan, Robert Creeley, some of the Language Poets and a small number of literarily aware New Media writers.

The field is vast and, given lessons learned from relativity theory, quantum physics, DNA sequencing, the Dalai Lama, from the provisional time-continuums of cinema, from the 'Swerve-of-fate Gothic arch [that] becomes Cerro-de-la-Silla' (Glazier 2012) its looming silhouette penetrating into the unfathomable chthonic realms of ageless impressions[1], from the spaces between words and tonalities of images in poems, from colors and images modulating before one's very eyes on the computer screen, and the vast distances reduced to nanoseconds by communications media, we have only begun to think of the possibilities. So there is no reason that any practice might be excluded.

At the same time, the time available to us as humans is not unlimited. Thus, one must make specific choices. That is why one always respects one's family responsibilities, one's own art practice, one's unwavering commitment to those they teach, and one's never-ending effort towards a greater understanding of the always-permeable richness of cultural configurations.

As regards the choices of time and art, I can only speak for myself. Trained as a painter and as a bibliographer, I like colors, I like words. There is some liberation in the text, whether printed, algorithm-generated, visual, sound-based or location specific, that speaks to my particular place in this Global Positioning System that identifies me as in the here and now. Of specific interest to me are several often-conflicting issues: how we create across languages, how language, like a star viewed from the earth's surface, is endlessly changeable yet somehow fixed, how everything we are is constituted by parts of other things – genetic, social, psychological, and cultural – and how we exist in relation to our own notion of time. There is space. There is matter. There is language as image and there is image as language. But to focus on specifics, let's look at this in a literal manner.

Reading Implicit Strings

On a more granular level, writing shifts. For example, look at author manuscripts. One can see that over the course of time, the features of the manuscript modulate: one word is crossed out, another is substituted; sometimes the original word is later reinstated where it was previously expunged. The conceptualisation here is not to look at this as a palimpsest, where traces of previous versions show through subsequent layers, rather; the mechanism is *digital* in nature – one that allows both versions to be read at the same time and with equal clarity, but with no material bleed.

One of the clearest examples is in the defining American poem of 1950's, Allen Ginsberg's *Howl*. This is a poem so specific and so historic that it seems to have been engraved in stone from the start, like the monolith in Kubrick's film, *2001* (or, more so, the undetonated bomb in the orphanage courtyard in Guillermo del Toro's, *El Espinazo del Diablo*), that seems decisive. However, looking at the manuscript one reads that even on the first incantatory line of this poem, the author was of two minds. In the famous City Lights Books printing of the text, it appears:

> I saw the best minds of my generation destroyed by
> madness, starving hysterical naked (Ginsberg 1956).

However, looking at the manuscript version, Ginsberg begins with a slightly different formulation:

> I saw the best minds of my generation
> generation destroyed by madness
> starving, hysterical naked .. (Ginsberg 1986).

One notes, of course, the repetition of the word 'generation'. This is perhaps an oversight in typing. But it is one that alters the rhythm of the poem markedly. Examining the manuscript further, one sees that Ginsberg originally wrote: 'starving mystical naked'. In the manuscript, 'mystical' is crossed out and replaced by 'hysterical'. In other words, the poem might have been:

> I saw the best minds of my generation destroyed by
> madness, starving mystical naked.

One could discuss at length the implications of both of these versions. However, for the moment, let's leave it by saying that both of them are informative. Each version offers illumination, each leads down different corridors of tonality. Yet, they both stick.

Let's also keep in mind some of the better known examples of authors 'rewriting' texts. There is Marianne Moore's famous example of *Poetry*, where nearly all of *Poetry* is erased as a revision to the original text (Moore 1981: 3, 266-267).[2] There are the works of Jack Spicer, written in parallel streams, at the top and bottom of each page. There are the visions of Shakespeare, great works of literature each version of which is but the variant of a text with no fixable chain of authorities. There are the canonical double narratives in the Old Testament (e.g. the three wife-sister narratives in Genesis), the phishing trick of homoglyph attacks (deviations consisting of the use of confusing 'look-a-like' URLs, e.g., 'paypa1.com' with an anticipated 'real' destination), and other related deceptions. There is the blank poem, *The Poem that has Never Been Read*, presented by Andrew Dorkin at the E- Poetry 2012 Digital Poetry Intensive at Buffalo (Dorkin 2012), where the poem simply appeared as a blank Word document and the audience had to suggest various strategies to 'de-code' and, in the process, degrade its integrity as a poem through 'reading' it. There are also, of course, numerous examples in cinema and its foundational self-misrepresentation as one continuously changing image.

Variant Protocols

Simply put, as Jack Lynch describes them, variants are differences between copies of a text. In his entry for 'Variant', he notes:

> Variants are differences between two copies of a text. They're most visible in manuscripts, where no two copies are quite the same, whether through accident or intention: a scribe may misread the copy from which he works, or try to make sense of a passage by altering it. But although the number of variants is sharply reduced by printing, they're still plentiful (Lynch).

Such 'fixing', minimised by printing, is actually exploded by the speed and mutability of digital media, far exceeding the variants resulting from manuscript production processes. Lynch continues:

> Twentieth-century textual critics distinguish two broad classes of variants, substantive and accidental. Substantive variants are those that change the sense of the text: the substitution of one word for another, for instance. Accidental variants are those that don't affect the meaning: the use of uppercase or lowercase letters, for instance; changes from British to American spelling; or differences in line-end hyphenation. Of course, determining whether any particular variant is substantive or accidental is often a judgment call (Lynch).

Such definitions of 'substantive' and 'accidental' raise crucial issues in digital texts. For the context of this discussion, suffice it to say that these two terms are problematic at best and exist on a continuum – across a dividing line with many shades of grey – rather than as distinct opposites. At this point in this investigation, one cannot overlook the concept of narrative.

Looking to cinema, one can find examples of how meaning might be made from interpreting variants. Of course, in this case, the word 'narrative' is used. This is a word that cannot be objected to but a sense of 'meaning' may also be kept in mind here. In other words, it's not so much about story (a narrative with bounded ends) that counts, but about what meaning-making trails might be explored in such a path through a given multi-car pile up of rear-ended signifiers.

In order to try to decode such processes David Bordwell, in his canonical *Narration in the Fiction Film*, examines narration as consisting of three systems: fabula, syuzhet, and style. Calvin Ashmore interpets these thusly: 'The fabula is the story. In film, the fabula is not given to the audience, it is constructed based on what they see. The syuzhet is the plot, how the narrative events are depicted and arranged. What Bordwell calls syuzhet is similar to what Seymour Chatman calls discourse. The style is the use of cinematic techniques and devices in order to affect the discourse' (Ashmore 2009a; see Ashmore 2009b for more details on Chatman).

Bordwell gives a very useful definition for narrative in film: 'In the fiction film, narration is *the process whereby the film's syuzhet and style interact in the course of cueing and channeling the spectator's construction of the fabula*.' (Bordwell 1985: 53, emphasis by Bordwell). Ashmore notes, 'It is important to note that the connotation of the narrative is not actually part of the narrative itself in this definition.' (Ashmore 2009a).

Of this presentation, Daniel Alfred Hassler-Forest notes that:

> In the case of multiple narrative structures, the question is automatically raised whether a multiple narrative picture viewer constructs multiple fabulas, or a single fabula that encompasses several strands of storytelling

and that

> The above distinction cannot be applied off-hand, for the issues it raises are more complex than first impressions might suggest. For when one starts to examine cases more closely, it becomes apparent that the precise borders between varieties can be difficult to define.' (Hassler-Forest 2000).

Most importantly, in this context, one might note Bordwell's use of the concept of multiple schemata, one of 'Film as a Phenomenal Process' (Bordwell 1985: 50) in decoding such means, a method much, as Ashmore notes, can be seen as related to the algorithm (Ashmore 2009a).

Reading Coded Strings

The 'Howl' revisions mentioned above provide a textual example that two strings can be different and yet somehow the same; that is, that letting go of a definitive, authoritative concept can open worlds that are much more nuanced and expressive.

Author manuscripts present only one location for observing the variable nature of texts. Such textual multiplicity extends to considerations of variant editions of printed works, of small press publications, of online versions of works, of ink for ink's sake, of permutational and deterministic texts, language experiments, materiality *a la* Jackson Pollack, of three-dimensional virtual reality books, and the Book of Sand theorised by Borges decades ago.

So I say, why not have your cake and eat it too? Or why not provide a possible answer to Hamlet's dilemma, as Stephen Greenblatt has commented, on what a complex act it is to know who you are (Greenblatt 2011). I would argue that such a comment suggests that the door out of the purgatory of multiple states of being lies in the acceptance of being somewhere – not somewhere that is fixed; not somewhere random: but somewhere located. In this context, 'located' suggests variable but *located* within some fixed relation of such parts of being.

I could say of the work discussed here, as in my own work, that the *mix* is of issue. My poems mix languages. I love languages like I love paints. Who will deny they can say more by mixing a can of alizarin crimson with a can of yellow ochre? Who does not delight in the swirl of the paints, one color riding on top of another, as they meld their way into something that is neither a color on its own nor a fait accompli? Thus, many of my works include English, Spanish, French, Italian, Nahuatl, Cubanismos, Tibetan, slang, curses, squeals of glee, porcine wails, saxophone riffs, beats; they use argots, derivatives, neologisms, onomatopoeia, sibilants, fricatives, etymons, archaisms, etymologies; these are Neolithic cave fragments in the roof of the mouth, coating the palette like silk, words than exist, certain as whispers in a delusion of a previous life of language long past but still vibrating at the level of our cells. Who would not paint with the full palette of resources from within – but also spread across cultures and languages of all varieties?

As a case in point, a work like *White Faced Bromeliads on 20 Hectares* attempts to address the issue of variant textuality. In this JavaScript poem, each line has two possible variants. These variants are shuffled every ten seconds. This means that an 8 line poem has 256 versions. This allows the poet to be of a mixed mind and for the text to be infused with nearly endless subtle variability.

Let's consider three examples of paired strings – code extracts from 'Bromeliads'.

> 'Bromeliads' code, example 1:
>
> a9 = new makeArray(2);
> a9[0] = 'bathe in the river heated by the lava's light. Pura vida, compita.'
> a9[1] = 'bathe in the river heated by the lava's flow. Pura vida, compita.'

This example provides one distinct change in two nearly identical lines (repetition). Note that the variants proposed in these two lines are distinct from a single line that might include both ideas, for example, 'bathe in the river heated by the lava's flow of light' or 'bathe in the river heated by the lava's flow and light', etc. The variants proposed in this pairing are distinctly in opposition to such a conjoined description. They are precise in rhythm. They both insist on a specific clarity and cleanness of expression. They are related but they are separate.

Again, they should not be thought of as having a relationship that would be like a palimpsest. Each time each string is either physically present or physically absent. The trace of the variant is not physical; it is phenomenal. Thus, these variants should be thought of more like film than like parchment. In film, the image seems to be moving not because the physical eye sees one layer superimposed on the other but because the mind's eye interprets subtle changes between distinct images to infer the perception of movement. There is a profound resonance to invoking such a functioning of the mind's eye as it communicates to the brain, distinct from physical perception.

The preceding example presents only one of a variety of possible variant plays; this is obviously a very simple form of variation. The many forms of variation should be seen not so much as different forms but as *degrees* of variation. Given the limitations of space here, it is impossible to go into a wide number of these degrees of variation. However, one or two of these will suffice to give a sense of the greater possibilities and potentials of stringed disturbances.

> 'Bromeliads' code, example 2:
>
> a1 = new makeArray(2);
> a1[0] = 'Nicoya. Nica. Tica. Medellin. How to transfer the lines so line'
> a1[1] = 'endings grab a break. Las Tica calles, three chapulines roving to attack'

This second example of variant text shows continuity within breakage (enjambment). That is, though the two lines read with continuity in the code (an added interest for those who read code), only one of the parts of the utterance is displayed at a time. This engages the reader's ability to 'fill in the blanks'. The idea is, whether or not the variant text is displayed, the reader has some sense of what is being said, even through the incomplete expression. Note also that, though the lines contain different text, each is marked by a dominant triple beat and by similar alliterative resonances.

> 'Bromeliads' code, example 3:
>
> a4 = new makeArray(2);
> a4[0] = 'Tico Fruit Finca Cinco. Banana plantations. Despacio. 52 Cabo '
> a4[1] = 'Blanco. Those are paper trees. They are working on banana paper'

This pair privileges painterly qualities of sound image-scapes over sequential narration (e.g. poetic sensibility over semantic content).

One notes the presence of beats and the use of syllabic repetition. The difference is, of course, that even on its own, each line makes little demonstrable sense. However, one does observe that the play between 'banana plantations' and 'paper trees' marks a uniformity of topic. 'Finca Cinco' and 'working on banana paper' keep consistent a sense of farm production. 'Banana' appears in each line, a fact that is most noticeable

when one watches the line changing as the text is reloaded. Most importantly, the similar setting for each line provides consistency where narrative meaning does not.

Complex Possibilities

As can be seen, each small change introduces increasing levels of complexity. As degrees of variation, such variants can be understood. However, when one puts into play numerous changing lines, even mathematically alone, the complexity of exponential numbers of variants cannot be truly grasped. As Rosencrantz notes to Hamlet:

> 'Tis too narrow for your mind.

And Hamlet replies:

> O God, I could be bounded in a nutshell and count myself a king of infinite space, were it not that I have bad dreams (Shakespeare 1914).

With digital technology, we can see the pattern that animates the possibilities, the 'to be or not to be' form parallel lines in simple JavaScript arrays. With an elementary algorithm, we can begin to embody (and I mean 'em-body') multiple textual states with deliberate writing practices embedded in (and emboldened by) code. As for the bad dreams – JavaScript cannot be blamed for that!

One cautionary consideration is that I address here only the literary qualities of digital texts. That is, my emphasis is on the literary dynamics of writing (e.g. utterance and ideas as expressed by alphabetic or letter-based language expression). It is an exploration of the dynamics, through computer processes, of meaning as expressed through variability. Such emphasis is put forward in acknowledgement of the richness of variant processes in related and coterminous fields of artistic practice. Considerations of multiplicity, simultaneity, temporality, transmission, and computer generation exist in many different practices – visual, sound, time-based video and the computer generated. Are all recognised as sites of poiesis.

For me, forms of digital literary practice break grammar, spew it across the screen, and reassemble it. At first it makes no logical sense. Then, not making sense seems to make more sense than making sense. What counts is not one version or the other but how we navigate from one construction to another. How everything we are both is - and is not - what words we ultimately choose.

So much is already happening and yet we haven't even begun to glimpse the possibilities. As Vilém Flusser notes, in *Does Writing Have a Future?*, given the field of physics today, two major changes occur with the digital. First, that 'space, once seen as absolute, and time, once seen as clearly elapsing, are nothing more than relationships between observers' and second, that 'the world, once seen as solid, is no more than a swarm of tiny particles whirling about at random' (Flusser 141). To me, this suggests that we have not even scratched the surface of digital technology.

I note that Flusser was a man who wrote his texts in different languages, translating himself over and over again, moving from English, to Portuguese, German, French and back again. A tremendously interesting philosopher, I can't help but think. that Flusser's thought was at least in part informed by mutations across language, similar to those addressed here.

Thus, clearly, there can be no single path through digital media. I emphasise that the field is wide and rich with ample opportunities for all. I do think it makes sense to clarify – to make new ways of thinking known – and to move forward within such ranges of possibilities.

Stringing Disturbances

Upon consideration of the above analysis of the text, a preliminary typology of variants can be extrapolated, inventorying standard and improvised categories of operation: semantic, phonetic, hypotactic, poetic tropes and coded permutations – all of which inhabit the concentric universes of language-play, literary structure, representation, and coded housings. Such typological categories are characterised by degrees of variation in a range of values, be they severe, moderate or subtle. Importantly, attentive consideration must be given to the spatial characteristics of such arrays and the degree to which space itself is a concrete component of the textual space of code works. Such subtle degrees of language making are extracted, layer by layer, through the aid of vocabularies, interpretative strategies, and analysis through the site-specific activity of digital close reading practices.

What is at stake here is an understanding of how all expression falls under the aegis of variation. Variation cannot be controlled. In any discourse system, variation is both boon and buffoonery: a survival skill and a stumbling block to ever being able to say what you mean. Thus, such variants may be seen as 'disturbances' since – to be blunt – the futility of more than a mere minimum of 'authorial' control is quite disturbing. Further, these are called stringed 'disturbances' as a way of noting their relationship to established literary traditions, their parallels with innovative poetry practices, wider cultural traditions, alternative textual genres and Modernist literary figures whose techniques, though substantially non-digital, may establish models of linguistic variation relevant to poetic string practice.

Further, they are 'disturbing' because the text itself is disturbed. It doesn't sit still. It never gives you a final version. It is always changing its mind. Its mind is variable without cessation. This can produce enchantment, annoyance, interest, indifference, but it doesn't matter: within a fixed number of seconds to follow, it will change again.

In closing I will never forget my father's sternest admonition, one that nearly derailed my life. One time, when I was an adolescent, during an argument about whether I could be a poet and still support any future family, he berated me for being a 'dreamer'. He told me I could never 'have my cake and eat it too'. Being immensely fond of cake, I found this quite distressing. Of course, I respect the memory of my father. And, considering he took a copy of my book with him to the hospital when he became gravely ill, I think he in the end respected me.

But I do thank computer processes for the here and now. Thus, addressing you as a literal descendent of the Cerro de la Silla, mythic mountains of self-encounter, speaking across generations, genetics, and idioms, observe that in one small way – en un pequeño modo – I am at last beginning to know what it means to succeed at having one's cake and eating it too. It certainly appears now that there is plenty of cake for all.

What Dragonfly Doesn't Savoir Faire
Lo que la luciérnaga no savoir faire

Un pequeño gorrión .. temblando ahí C'est que
in citrus dream : Oranges, Arles et Nîmes, eh
Tunisian swoon - citric Títeres de Cachiporra
sticker ghost on loon panels ... regiomontano
'glaziers, painters & other handy-crafts men'
the moon air lune soon ou Clignancourt eau d'
Place des Vosges - Parque Ecológico-Chipinque
maison de Victor Hugo -- Bosques de San Angel
Sector Palmillas, Vézelay in Burgundy seafoam
turquoise Centzontle-norteño swoon cinq c'est
écalant danse pine and teak forest ^ Là-bas é
lyric labas swishing cê-tween trees sabe kobe
Butterflies are presciently poetic ici - with
174-species Phospho-Bosporus sabe rebatar bom
Flux or lulls sifr Swerve-of-fate Gothic arch
becomes Cerro-de-la-Silla .. nian basket arch
Archères .. Saint-Hyacinthe .. the Roman eros
rends rose Rhône River, into Languedoc -- atl
c'est-la encounter the next Moyen Ages - Xime
When the basilica was first built, bê, soleil
Two tiny stains to striation ... hint of bump
to one corner, cê ce-ci because of its beauty
Odalisque, Olinalá, onda mystic of Loss Poets
viz: If you move your right hand one key left
'loss' becomes 'kiss'. Etymon upon sand dunes
It depends on La-Sultana-del-Norte Izmir iris
Isis is inside Iztac Inset since islet instep
White whale bones oohtin o the Skeleton Coast
Maraschino metztli cerise honey miel rooftops

Footnotes:

1. The Cerro de la Silla is a particularly distinctive, two-peaked mountain dominating Monterrey near the northern border of Mexico. Monterrey, along with San Antonio (now in Texas), served as one locus of a shifting twin capital of the historical borderlands frontier between Mexico and the Texas territory. The poem that concludes the essay is a crafted 'snapshot' of a work on the theme of Monterrey that uses variant arrangements of text 'floating' in an iPad window (based on the *P.o.E.M.M.* project by Jason Edward Lewis. http://www.poemm.net [Accessed, 02 July 2012].

2. Of 'Poetry', Jeffrey D. Peterson, tracing erasure and variants as a project of poetic meaning, proposes a reading based on one that builds from Hugh Kenner. Kenner's observation was that the last version of the poem is 'a footnote to an excerpt from itself'.(Kenner 1967: 1432-33). Peterson argues that, 'In its final form 'Poetry' asks us not only to trace its textual variants, but to account for the transmutation of the famous 'place for the genuine' entailed in the poem's presence in its own 'appendix' as well' (Peterson 1990).

Bibliography:

Ashmore, C. (2009a) 'David Bordwell: Narration in the Fiction Film'. http://www.icosilune.com/2009/02/david-bordwell-narration-in-the-fiction-film/ [Accessed 26 June 2012].

Ashmore, C. (2009b) 'Seymour Chatman: Story and Discourse'. http://www.icosilune.com/2009/01/seymour-chatman-story-and-discourse/ [Accessed 26 June 2012].

Bordwell, D. (1985) *Narration in the Fiction Film*. University of Wisconsin Press.

Dorkin, A. (2012) 'The Poem that has Never Been Read' *E- Poetry 2012 Digital Poetry Intensive Buffalo*, unpublished conference presentation.

Flusser, V. (2011) *Does Writing Have a Future?* Minneapolis: Minn. UP.

Ginsberg, A. (1956) *Howl* San Francisco: City Lights.

Ginsberg, A. (1986) *Howl: Original Draft Facsimile*. Barry Miles (ed.) NY: Harper & Row. p. 12.

Glazier, L. (1999) 'White-Faced Bromeliads on 20 Hectares'. http://epc.buffalo.edu/authors/glazier/e-poetry/bromeliads [Accessed 25 June 2012].

Glazier, L. (2012) *What Dragonfly Doesn't Savoir Faire*. Postcard poem.

Greenblatt, S. (2011) Charlie Rose: Stephen Greenblatt of Harvard University on Shakespeare's 'Hamlet' Oct. 27, 2011.

Hassler-Forest, D. (2000) 'Defining Multiple Narrative Structures' http://www.euronet.nl/users/mcbeijer/dan/mns/mns.html [Accessed 25 June 2012].

Kenner, H. (1967) 'Artemis and Harlequin', *National Review* 19 (26 December 1967): 1432- 33 [cited by Peterson, http://www.english.illinois.edu/maps/poets/m_r/moore/poetry.htm, 6/23/12].

Lynch, J. n.d. 'Variant' *Guide to Literary Terms*. http://andromeda.rutgers.edu/~jlynch/Terms/variant.html [Accessed 15 June 2012].

Moore, M. (1981), 'Poetry', The Complete Poems of Marianne Moore, 'Poetry' p. 3 and 'Poetry (Longer Version)' pp. 266-267.

Peterson, J. (1990) Excerpted from 'Notes on the Poem(s) 'Poetry' in Patricia C. Willis (ed.) *The Ingenuity of Moore's Poetic 'Place", Marianne Moore: Woman and Poet*. Orono, ME: National Poetry Foundation, 1990. <http://www.english.illinois.edu/maps/poets/m_r/moore/poetry.htm [Accessed 23 June 2012].

Shakespeare, W. 'Hamlet, Prince of Denmark'. *The Oxford Shakespeare*, 1914. Act II. Scene II. Line 234. http://www.bartleby.com/70/4222.html [Accessed, 23 June 2012].

CONSTRUCTS OF THE INTERACTIVE DOCUMENTARY IMAGE IN *INSIDE/OUTSIDE, THE UNKNOWN TERRITORIES PROJECT*, AND *ESTUARY*[1]

Roderick Coover

This paper introduces three original works that use features of interactive documentary arts to explore social constructions of places and their attending narratives. The three interactive projects that are introduced are *Inside/Outside, The Unknown Territories Project*, and *Estuary*. The paper asks how tools of layering, compositing and navigation through documentary imagery in photography and film contribute to an understanding of the connection between social relationships and a sense of space.

Social relationships form and become inscribed in spaces (Lefebvre 1991). For example groups organise spaces, from casual meeting spots to courtrooms or sports arenas, to perform differing functions. Those functions are shaped by factors such as the logistics of space; for example, whether a space enables exchange or separates individuals, establishes cultural patterns of expression, such as conversation or ritual performance, and the iconic, indexical and symbolic ways that stories such as those of history, memory and desire become embedded or denied (see, for example, Nora et al 1996-1998).

Fig. 1. Screen-shot from *Inside-Outside* (Coover 2007) depicting the layering of archival photographs, video clips, text on a panoramic backdrop.

Mapping and other forms of visually representing a space can present such relationships. They also distance the user from those relationships by abstracting them from the experience of time within the place pictured. Spatial configurations of information may include time elements, but most often they contain them within another structure. This is true for example in the embedding of video clips in web pages and interactive maps, such as Google maps; video moments are contained within a larger structure that a user navigates in her own time and she can even play differing time-based representations at the same time. The translation of spatial relationships through such maps creates a kind of distancing in which the temporal experiences of places are configured by a user in her own time. This process of translation is not entirely unlike that of the ethnographer who alternates between the role of being within a group, in the spatial milieu in which its relationships are constructed, and outside of it, trying to find ways to extract or abstract details that can offer understanding (see, for example, Clifford & Marcus 1986, Marcus 1990).

Photographic and cinematographic forms of representation of actuality (i.e. documentary film) also engage in spatial practices

Fig. 2. Screen-shot from *Inside-Outside*. The continuing panoramic imagery has no narrative beginning or end. Various characters (played by actor, Brett Keyser) engage with the space in differing ways, both in photographic performance and in the videos, which are envisioned as portals into the past(s), present(s) and future(s).

of organisation, distancing and reconfiguring, that take on new dimensions in digital contexts. For example, in their book *Another Way Of Telling* (1982), John Berger and Jean Mohr present a 142 page photo sequence that is part narrative, part expressive montage and part visual essay. They argue that their montage of images, while appearing cinematic, operates differently from cinema because of the opportunity afforded to readers to turn back and forth across the images. In celluloid editing practices, clips are examined as discreet physical objects that hang from bins or are coiled on cores. They are arranged and often re-arranged into sets, which are spatial configurations, and are given tags and annotations through logs. The clips are gathered, taped and later glued in various physical variations. The editor fingers and scrolls through these, at times making cuts as much by the physical lengths of the clips as by their contents. Likewise, digital editing environments also arrange clips, or more correctly icons that signify clips, spatially. Bins, timelines and menus are forms of spatial organisation from which temporal experiences of actually watching clips are triggered. Where time-based viewership largely stimulates spontaneous constitutive processes (see, for example, Nelson 1978), editing and other hypermedia activities more significantly emphasise conscious and reflexive constitutive processes in which questions that are raised by one image get explored through another. The editing process requires choices and selection. The editor may imagine and create sequences from clips in almost infinite variations, even if, in the final result, all but one of those variations are discarded, and the rejects are forgotten along with the myriad lessons and alternatives they may have offered.

Fig. 3. Screen-shot from *Voyage Into The Unknown* (Roderick Coover 2008). Users navigate a fantastic landscape representing the imagined route lying ahead of John Wesley Powell upon his attempt to be the first Caucasian America to navigate and map the Colorado River. Users join the crew, marking, naming and navigating the landscape, after which photographs and stories transform the experience into a socio-cultural record – one that conceals as much as it reveals.

In providing diverse ways of moving between the spatial organisation and temporal expression of clips, digital and interactive tools expand the editor's reflexivity and choice-making (Coover 2012). Digital technologies enable the inclusion of materials recorded or organised through differing modes as well as the incorporation of other kinds of research materials, such as texts, maps and photographs. They can allow for continual updating and offer opportunities for using algorithms to create versions generated by the computer or user inputs. Further, in locative media projects, virtual 'edits' may even be created by users physically walking among actual places, conjoining located materials en route. In some cases the editor is therefore also theoretician, technician, writer, explorer, researcher and designer, and this may result in projects that are equally experiential or intellectual. There is a risk, however, that structural and technological advances are not developed in relation to in-depth content; in such cases, the exhibition of technological innovation is primarily self-serving to the technological apparatus of which they are a part, and as such there is less opportunity for a two -way exchange, apt application of metaphor or structure, and creative growth.

For the creators of digital works, navigation-based forms of interaction are shaped by computer interfaces, program metaphors and design possibilities. Materials, such as icons, videos and text are displayed spatially. Just as icons are moved about the desktop on personal computers, so, too, are icons pertaining to video clips moved between folders, bins and/or timelines in programs like Adobe Premiere®, Adobe After Effects®, Avid, DVD Studio Pro®, Final Cut Pro® and Media 100®. They may also be placed in other programs that are designed for other kinds of creative and critical practices, such as Microsoft Word® or Eastgate Story Space®. Furthermore, the nature and form of the documentary image itself is transformed through spatial arrangements such as juxtaposition, layering, or compositing (Coover 2011(b), 2012; Manovich 2001, 2006). However, it should be added that the arbitrary assignment of film terms by software companies poses many questions for new makers of motion images. The assignment is presumably designed to make software terms recognisable. However, it shapes ways in which clips are gathered, named and placed within a project based on terms that may not be sufficiently flexible. As few film students under the age of 30 have ever seen a bin or actually cut a piece of celluloid, the assignment of such terms is abstract but their designs impose constraints that may be confining. Perhaps other terms for the sorting and conjoining practices might expand thinking about what time-images are and how they might work together.

In their work, *Another Way of Telling* (1982), Berger and Mohr stress that an important difference between viewing (or reading) images in a book and watching such images in a film is the forward temporal force of the technology, which Berger characterises as producing a kind of temporal anxiety through the technological provocation to attend to each forthcoming frame. Berger writes,

> Eisenstein once spoke of a 'montage of attractions'. By this he meant that what precedes the film-cut should attract what follows it, and vice versa. The energy of this attraction could take the form of a contrast, an equivalence, a conflict, a recurrence. In each case, the cut becomes eloquent and functions like the hinge of a metaphor... Yet there was in fact an intrinsic difficulty in applying this idea to film. In a film... there is always a third energy in play: that of the reel, that of the film's running through time. And so the two attractions in a film montage are never equal.... In a sequence of still photographs, however, the energy of attraction, either side of a cut, does remain equal, two way and mutual.... The sequence has become a field of coexistence like the field of memory... Photographs so placed are restored to a living context: not of course to the original context from which they were taken – that is impossible – but to a context of experience (288-9).

Fig. 4. Assemblage from *Canyonlands* (the movie), 2012. Elements from the interactive project Unknown Territories are also configured into single channel videos.

In short, this kind of interplay maximises the conscious, constitutive characteristics of documentary images in ways that resemble the experience of navigating among clips in editing programs, browsers, and various other interactive media environments. Video clips, like photos, may be accessed at various times and for diverse reasons. As Berger goes, in similarly discussing the sequencing of photographs, 'The world they reveal, frozen, becomes tractable.' The choice to use a navigational technique is particularly apt for Berger and Mohr because they are making a project about navigating among the associations, desires and ruptures of memory. Navigation allows users to cross-reference images, to discover formal, tropic, narrative, and expository significations. The ability to juxtapose and link diverse kinds of materials expands the potential for reflexivity. The navigable spatial arrangement of the book enables choice and subjective temporality, where the instant forward motion of single-channel cinema does not. Interactive documentaries may accommodate both forms of cognition by offering a mix of temporal and navigational experiences.

Environments that bring together differing kinds of research materials can enable users to follow the media maker's process, whether by reading field notes and supporting documents or by following how particular sets of materials led to the development of an edit or argument (Coover 2003). When supporting materials and data are available, the user can follow along to see how choices were made and consider alternatives (Coover 2011(a), 2011(b), 2011(c), 2012). The media maker is not deprived of the power to make an argument and have a voice (expressing one's ideas is among the important reasons that individuals make works). In fact, the maker may offer many arguments that would not fit together in the logics of a single-channel work. As evidenced in works by Susan Meiselas, John Rechy, and Samuel Bollendorf and Abel Segretin, among many others, such works can express relationships between the user, maker and subject that raise interesting ethical questions about single-channel media and the messages they may convey through form.

Commissioned by the Museum of the American Philosophical Society, *Inside/Outside* (Fig. 1, 2) considers how competing historical opinions of a two block area of central Philadelphia contributed to the growth and decline of the city; an interactive format is used to juxtapose these views and forge collective engagement with museum visitors that is then enacted through group explorations that are video recorded and added to the work over an 18 month period, from 22 June 2007 – 28 December 2008. The installation kiosk in the museum

presented a layered panoramic image of the park outside the museum. The materials layered upon and around the panoramic imagery included embedded videos, photographs, maps and text (see Fig. 1).

The installation invited viewers to take a virtual stroll (or 'scroll') through a section of National Historical Independence Park adjacent to the museum, with an eye to uncovering fragmentary evidence of the differing histories of the area (about four city blocks). 'Bands' of original text and quotes ran above and below a spiraling panoramic image of the park. Archival photographs and etchings of the urban landscape, taken at differing stages during its (re)development, were layered upon and around the composited panoramic photograph. The videos offered viewers mini-explorations within the park.

The structuring metaphors of walking and exploring were particularly apt. The exhibition looked at how approaches to exploration, including differing modes of representation such as diary writing, map-making, and drawing, shaped the formation of differing kinds of knowledge. The historic park where the work was recorded is a recreation area that had been used in many different ways over the past 200 years. Independence Hall was first constructed in 1732, at which time it sat near the edge of a colonial port on the Delaware River. A small square behind the hall was established as a park to be preserved in perpetuity, and this decree endured though the U.S. War of Independence and the subsequent growth of the city, while the lands surrounding it were transformed by industry. Tanneries and breweries lined the edge of a creek running through the city toward the Delaware River, and a prison was built overlooking the smaller park. As the city continued to grow, the creek – which had become more like an open sewer – was covered, and the industries moved out. The industrial buildings were torn down and replaced by commercial enterprises and warehouses. Beginning in the 1950s, many of these buildings were razed for an expansion of the park. A walker would find few, and discreet, signs of the land's concealed histories in the landscape's topography.

After visiting the exhibits in the historical museum, visitors are likely to walk in the park. Navigating actual or virtual terrains, an urban explorer might come upon clues to its man-made and

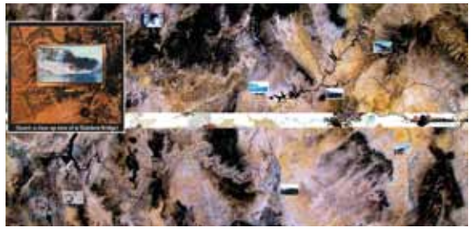


Fig 5. *Unknown Territories* presented in installation form with videos and text elements scattered across a large and detailed satellite image.

natural histories. A number of strategies were employed in the videos embedded in *Inside/Outside* to allow users to search for concealed pasts. For example, each inset video sequence was shaped by a differing method of exploration; one video focused on measuring, another on the wildlife that made its home in that urban setting, another on the concealed waterways that ran through it, and so forth. Each video sequence was recorded in a different season, under differing weather conditions, so that tone and light vary and each draws on differing genre-styles as contrasting modes of representation. The user engaged in an exploratory process not unlike that of the original researcher; the user gathered and compiled evidence from the landscape.

Modes of exposition, voices and viewpoints mix. A multimedia environment offers the potential to present temporal continuity and uninterrupted (or contiguous) spatial representation, while at the same time allowing for montage, collage, layering, compositing, and other forms of media-mixing, as well as elements of performance; these bring together differing conditions of time in the common virtual (and actual) spaces depicted (see Fig. 2). The media-mixing processes, which are made possible by new tools, can disrupt expectations of verisimilitude that contiguity and continuity imply; in doing so, they can challenge the authoritative stance of objectivity that contiguous and continuous representation is often used to represent. Once dialectically-opposed methods of panoramic art and cinema, such as those of continuity and montage, of close-up and long-shot, or of exposition and narrative, now co-exist. Historical elements can also co-exist, as when 19th and 20th century photographs of identical locations in the park were layered upon a corresponding 21st century image.

Fig. 6. Production map for *Estuary*. *Estuary* applies these techniques of mapping, writing and audio-visual production to investigate the urban spaces of the Delaware River. The project explores industrial uses of the river that shape narratives and social uses of space, whilst speculating on the impact of climate change on those relationships.

The *Unknown Territories Project* (Fig. 3,4,5) includes a set of works exploring how places in the arid American West are constructed through the shared narratives and images of exploration. The project uses interactive Websites, films and installations as it suggests how differing modes of writing (e.g. diary, exposition, fiction) and visual representation (e.g. illustration, photography, film) shape the social production of space. The project emphasises user path-making, by which time elements are gathered to construct cinema-like experiences. Choice -making is a condition that once drew me as a student to direct cinema, as characterised by the films of Richard Leacock, the Maysles brothers and Frederick Wiseman, and to ethnographic film, notably to works by Jean Rouch, David MacDougall and Robert Gardner. There are many other kinds of documentary films that are tightly scripted before shooting starts, as the camera commits a preconceived text to image. However, in both direct cinema and much of ethnographic filmmaking, the researcher-maker may have little control over what occurs in front of the lens. Choices must be made in real-time through a social engagement that includes both human and technological participants: the subjects, the filmmaker and the camera and related equipment (notably the tripod, which stands within settings, and the microphone, which probes more closely to gather good sound). The researcher-filmmaker must make choices in filming (and with related tasks of note-taking, audio recording, etc.) that will capture impressions of an occurrence and provide sufficient evidence from which to develop later interpretations. Interactive and scrolling or browser environments may provide

some of the same choice-making processes to users who may, in some cases, also contribute to the works.

Users in these screen-spaces make their paths among the data. They can see how arguments are built out of research materials and can consider what other choices might be made. A critical reader-user can also consider alternatives, which can result in the construction of arguments that contain within them a range of complementary or co-existing interpretations. This structure is ideally suited for ethnographic practices, that so often weave together many points of view and that must take into account the continual evolution of cultural practices and their meanings. It allows researchers to integrate, organise and interpret materials, to reveal their processes, and to build arguments without excluding alternatives. It allows users to engage in this process *along side* the researcher, following a researcher's interpretive process, and comparing it with alternative options.

Estuary examines the human development and harbor activities of one of the busiest port districts in the eastern USA, with special attention given to borders and peripheries where social practices breakdown or are transformed; special attention is given to spaces that have been transformed by creative practices and natural decay. The project incorporates original videography and photography of the industrial docklands of the Delaware River to explore how forces of climate change, such as tidal floods, alter expressions of place. Original recordings, from the river's edge and from a kayak, chart an industrial and post-industrial landscape while recordings of ships in motion, lighthouse signals and seasonal change juxtapose expressions of time.

The original recordings are integrated with dramatic imagery recorded with performers and processed for tropic and tonal qualities, and they are also combined with scientific materials including a chemical surface assessment. The project asks what happens when a river, which once may have been seen as a force washing pollutants away, instead is seen as bringing salt and toxic elements inward toward urban populations and natural preserves. Through multi-modal layering and fragmentation, the work challenges conventional dichotomies of montage and continuity as well as those of navigation and mapping.

Fig. 7. Screen-shot from *Estuary*.

Layering original footage on composited, animated panoramic settings challenges conventions of contiguity and continuity, as elements that make up the panorama, such as images of individuals, follow actions at rates shaped by their own narratives and not by a dominant, technological and singular structure of time (as traditionally established by the technological recording and playback devices). Here, the idea is to return social relations to urban (and *always* also natural) spaces through representational digital technologies while also liberating experiences of these spaces from the authority of the mono-logical and didactic time-space relationships given by single channel or single-form media. The co-existence of differing time and elements is also a dispersal of their authority. For *Estuary*, this allows, hence, for the development of differing and competing projections of a future, one in which a river threatens to reclaim its industrial past. This imagined reclamation (there is also an important real one to take into account) is itself a reconfiguration of social relations and our common participation in the making of the shared spaces of our cities.

Notes

1. This paper includes passages published in Coover 2011(a), 2011(b) and 2012 in which can be found expanded discussions of uses of layering and compositing, visual research and interactive documentary methods.

Works cited

Bartscherer, T. & Coover, R., (eds.) (2011) *Switching Codes: Thinking Through New Technologies In The Humanities And Arts*. Chicago: University of Chicago Press.

Berger, J. & Mohr, J. (1982) *Another Way Of Telling*. New York: Pantheon.

Bollendorf, F., Segretin, S. and A. *Journey To The End of Coal*. http://www.honkytonk.fr/index.php/webdoc/. [Accessed 12-12-2011].

Clifford, J. & Marcus, G. (1986) *Writing Culture: The Poetics And Politics Of Ethnography*. Berkeley and Los Angeles: University of California Press.

— (2003) *Cultures In Webs: Working In Hypermedia With The Documentary Image*. Interactive CD-ROM. Cambridge: Eastgate.

— (2011a) 'The Digital Panorama and Cinemascapes' in Bartscherer, T. & Coover, R. (eds.) *Switching Codes: Thinking Through Digital Technologies In The Humanities And Arts*. Chicago: University of Chicago Press, pp. 199-217.

— (2011b) 'Interactive Media Representation' in Margolis, E. & Pauwels. L. (eds.) *The SAGE Handbook Of Visual Research Methods*. London: SAGE Publications, Inc.

— (2011c) *Canyonlands*. Unknown Territories Project (Website and installation). www.unknownterritories.org. [Accessed 11-1-2011].

— (2011d) 'Voyage Into The Unknown' in Borràs L. et al (eds.) *Electronic Literature Collection*, Volume 2. College Park: Electronic Literature Organisation.

— (2012) *Visual Research And The New Documentary* Studies in Documentary Film. Autumn.

Coover, R. et al. (2012) 'Digital Technologies, Visual Research And The Non-fiction Image' in Pink, S. (ed.) *Advances in Visual Methodology*. London and Los Angeles: Sage.

Lefebvre, H. (1991) *The Production of Space*, trans. by Nicholson-Smith, D. Oxford: Basil Blackwell.

Manovich, L. (2001) *The Language Of New Media*. Cambridge, Massachusetts: The MIT Press.

— (2006) 'After effects, or the velvet revolution' in *Millennium Journal* nos. 45/46, pp. 5–20.

Marcus, G. E. (1990) 'The modernist sensibility in recent ethnographic writing and the cinematic metaphor of montage' in *Society For Visual Anthropology Review*, Spring: 1–12.

Meiselas, S. *AKA Kurdistan* (website) http://www.akakurdistan.com/. [Accessed 11-12-2011].

Goodman, N. (1978) *Ways Of Worldmaking*. Indianapolis: Hackett Publishing Company.

Nora, P. et al. (1996) vol.1, (1997) vol. 2, (1998) vol. 3. *Realms of Memory: Rethinking the French Past*. vols. 1-3. New York: University of Columbia Press.

Rechy, J. et al. (2001) *Mysteries And Desires: Searching The Worlds Of John Rechy*. Los Angeles: The Labyrinth Project.

Ritchin, F. *Pixel Press* (website). www.pixelpress.org. [Accessed 10-11-2011].

R3/\/\1X\/\/0RX

R3/\/\1X\/\/0RX – A MICRO-COMMUNITY OF CREATIVE DISCOURSE. AN ARTISTS' PRESENTATION OF REMIXWORX AS A CASE STUDY FOR REMEDIATING THE SOCIAL

Chris Joseph, Christine Wilks, Randy Adams

R3/\/\1X\/\/0RX (remixworx), the blog, began in November 2006 as a collaborative space for remixing digital art, visual poetry, e-poetry, playable media, animation, photography, music and texts. Since then it has grown to include more than 500 individual works of media, many strewn about in comment areas. Where possible, each new piece is remixed, literally or conceptually, from others on the blog and linked to the appropriate page(s). New work is welcome too because R3/\/\1X\/\/0RX needs to be fed. Source material is made available and all media is freely given to be remixed. Thus, the project has no single author.

In contrast to the macro-communities enabled by the major social media platforms, remixworx is a creative micro-community – a far-flung but tight-knit social group of recombinant artistic practice. It grew, in part, out of The trAce Online Writing Community when that community wound down and some trAce members still wanted to work together in the spirit of open source. The R3/\/\1X\/\/0RX blog also grew from an engagement with the remix aesthetic, where individual works are not viewed as precious but open to interpretation. It is very much about dialogue and collaboration, but not in the conventional sense – the conversation is embedded in the creative media, in its poetics, and is also facilitated by the affordances of the WordPress blogging platform via pingbacks. Each remix piece is an utterance in a multimodal dialogue and the community is produced by this creative digital discourse.

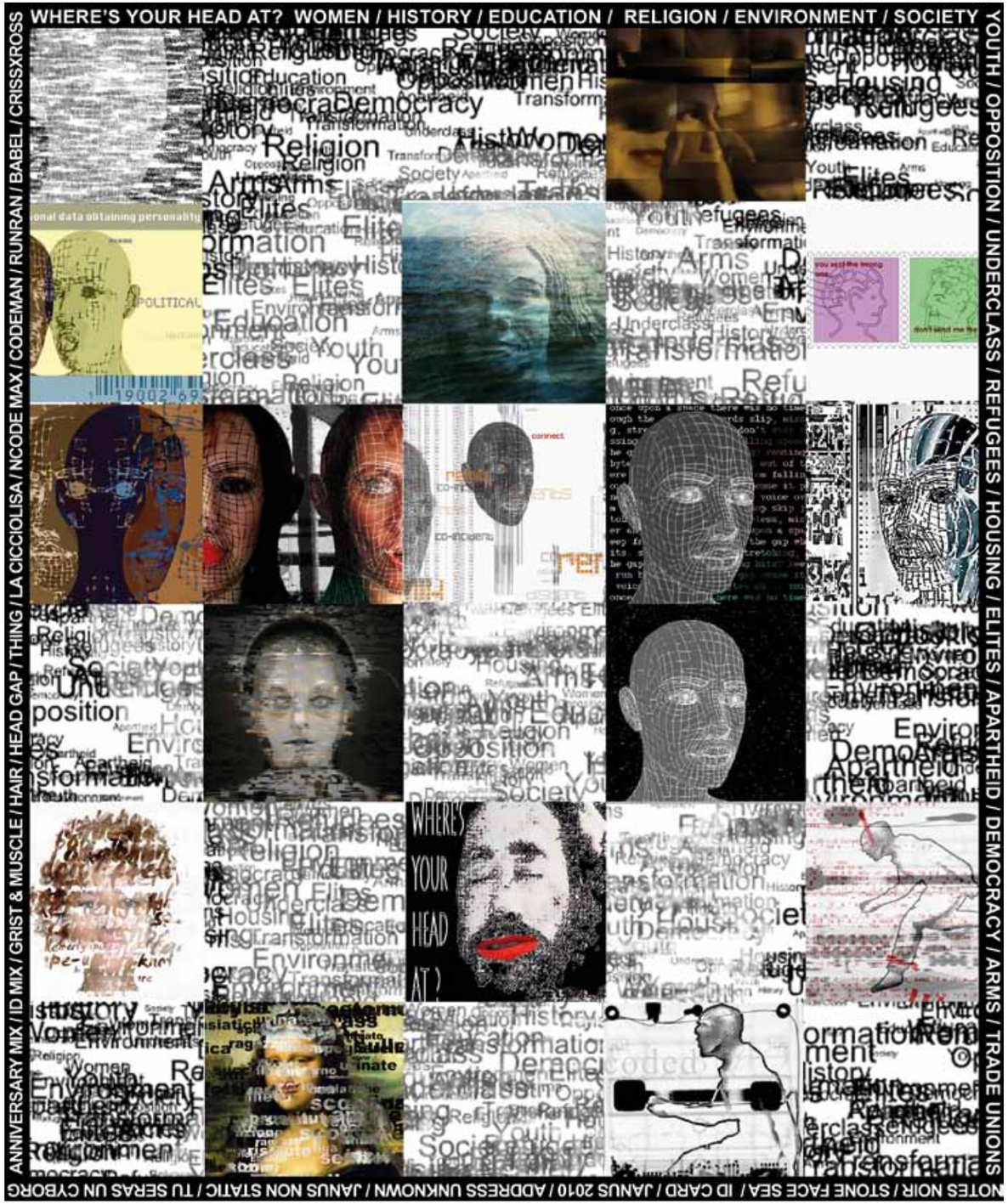
R3/\/\1X\/\/0RX members are a disparate group, our individual bodies of work are quite distinct from each other, and yet we collectively author a substantial, cohesive, artistic project. It is the process of unpacking and sifting through code, media assets and ideas, and then responding, that knits the community together. It is the push and pull of mutual surprise, delight, challenge and learning that inspires us. As well, there are several works of political and social commentary.

R3/\/\1X\/\/0RX is a flexible community, an adaptable entity that can be shown in a variety of ways – as an online journal of digital art and writing, performed live at festivals and conferences, or even remixed live as part of VJ events. For Remediating the Social, our presentation, based around a specially curated index page of remixworx (http://runran.net/remixworx/), traces some threads through the community's digital discourse.

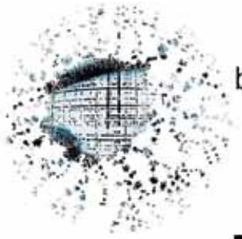
The accompanying images are three more instances of remediated remixes of the online entity, this time for the printed page. Each one, created by a different member of the group – Chris Joseph (babel), Christine Wilks (crissxross) and Randy Adams (runran) – is a form of poetic infographic, charting certain trails through R3/\/\1X\/\/0RX.

Credits: other artists who have made significant contributions to R3/\/\1X\/\/0RX over the years are Peter Ciccariello, Erik H Rzepka, Matina L Stamatakis and Ted Warnell. 'Guest' contributors include Carmen Adriana, Marco Giovenale, Alexander Jorgensen, Jukka-Pekka Kevninen and Simon Mills. By virtue of being remixed, the site also incorporates the work of Lancillotto Bellini, mez breeze, Kenny Cole, Geof Huth, Talan Memmott, Rainer Schaeffer, Alan Sondheim and others. Included also are memorials to past artists and writers, such as David Daniels, Aldous Huxley, Alison Knowles, Ada Lovelace, Octavio Paz, Ralph Rumney, Kurt Vonnegut, Emmett Williams and others.

www.runran.net/remixworx/



In the distance she heard some battle raging under an ever eclipsing moon. A game probably but nothing could be taken at face value.



blakes pupil

of the Lake

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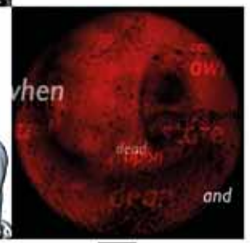

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money

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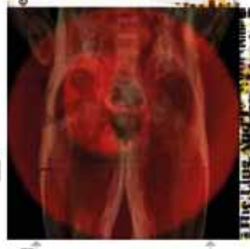

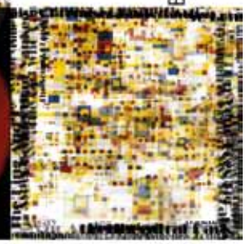

StoneFaceSea

Blood

And The Moon

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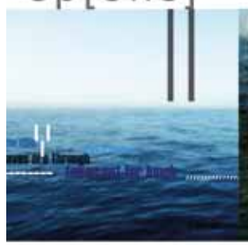

biogenoscopic

translocation

rawLorem Ipsum

leaving

home

Weird sensations of everything coming apart. Our eyes were reduced to seeing in pixels. There were tinglings all over like being bombarded by molecules. We didn't mind at first. The sensations were a kick. Then there started being a kind of tug, as if we were being pulled toward – what?

xy+:=/][()*

by the ribs to a gallows

http://www.runran.net/remix_runran/?p=493
[...] address unknown + notes from several meetings or things we might have said + when one hundred million million poems just isn't enough[...]

Tu seras un cyborg, mon fils!

http://www.runran.net/remix_runran/?p=1589
[...] robosplat – [splat] + cow + for Kurt (1922 – 2007) + the painter has left the landscape + the continuing adventures [...]

THOUGHT

Republic

R3//1X//0RX » Blog Archive » Draft Constitution for the Syrian Arab Republic [...]
(Pitterdefunct Mix) Says: February 22nd, 2012 at 9:03 am [...] R3//1X//0RX media remix | R3//1X//0RX | about | devil's rope journal | rss | comments | members | admin | « Draft Constitution for the Syrian Arab Republic [...]

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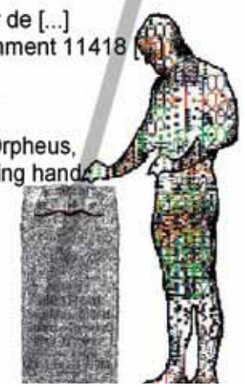
xy+:=/\][()*
[...] remixworx. from xy+:=/][()* + Angelica from Clair de [...]
[...] from Lumley attacks 'obscure' new poetry + comment 11418 [...]

Digiman visits a necropolis high above the Misty Hills.
His fingers hover tentatively over a stone book.
Time stands still. He muses on unwritten texts while Orpheus,
his butterfly companion, balances patiently on his writing hand.



AUTHORIAL SCHOLARSHIP 2.0: TRACING THE CREATIVE PROCESS IN ONLINE COMMUNITIES

Leonardo Flores

The age of letter writing is coming to an end, just as an era of e-mail, blogs, online groups, and social networks is emerging as a new mode of communication. The work of scholars interested in what writers have to say about their work has simultaneously become easier and more challenging, depending upon the technologies used by these writers. How do we conduct authorial scholarship in an age of digital media? My presentation will address this question through a case study: my own research on Jim Andrews and his work, focusing on the challenges and affordances offered by the current media ecology.

But first it is important to consider the need for authorial scholarship in the 21st century, since this became a highly contested critical practice in the 20th century. The famous New Criticism essay by W. K. Wimsatt and Beardley, *The Intentional Fallacy*, helped debunk a scholarly tradition based on biographical research designed to determine the author's intent with the goal of focusing critical attention on the text (1954). Reader Response theories drew attention away from the author to emphasise the role of the reader in the construction of meanings in literary and other works (Harkin 2005). Roland Barthes' essay, *The Death of the Author*, essentially subverted the Formalist practice of close reading to destabilise single interpretations, which he attibutes to an Author who must 'die' to allow for endless play at the hands of the Reader (1977). Michel Foucault's *What is an Author?* examined the discourse surrounding the author to define an 'author function,' which is constructed both by readers and by the culture that produces the conditions for the work to exist and have meaning (1984).

Foucault also gestures towards a very practical problem taken on by bibliography and editorial theorists such as Fredson Bowers, G.Thomas Tanselle, Jerome McGann, Peter Shillingsburg, John Bryant and many others: where does a work stop? What does one publish? As is obvious to editors who must choose among multiple manuscripts and editions of a work to produce new, critical, or 'authoritative' editions of literary works – works are multivalent, never self-identical, and authorial intentions are a problematic guide to making such choices. The Bowers and Tanselle intentionalist approach to editorial theory seeks to capture the text that best represents the author's intentions, and arguments can be made for manuscripts, first, revised, or final editions, to fulfill that need. For example, in the case of Herman Melville's *Typee*, the editorial team (which included G. Thomas Tanselle) chose to represent one moment in the creative process and authorial intent in the 1968 Northwestern-Newberry edition (Bryant 2002: 38-40). Jerome McGann makes the case that when texts are published, they are 'socialised', which means that multiple intentions and interests, including authorial, editorial, publisher, layout artists, letterists, and their vision of a culture, become inextricably joined and crystallised in an edition (1991). Shillingsburg and Bryant both pragmatically harmonise some of the bibliographical debates to propose digital and print editions that can offer 'clear reading' texts and 'fluid-text' editions, capturing the multiplicity of intentions, which do change over time, as can be seen in John Bryant's Fluid-Text Edition of *Typee* (2006).

Clearly the notion of the author, humanised and stripped of its powers to provide definitive interpretations, has remained a compelling force for insight in literary study. Dario Compagno' essay *Theories of Authorship and Intention in the Twentieth Century: An Overview* (derived from his 2010 dissertation) provides a complete theoretical and philosophical overview of the 20th century debate on the author, concluding that

> it is better to build up an author *as best as we can*. A pragmatic approach to the author recognises the fallibility of interpretation, but values all clues that can help to understand *intentions in the act of writing itself*, and so to see alternatives and choices in the words and sentences actually used. (2012: 48).

Compagno makes a compelling and well informed argument for the author and its intentions as being always open to interpretation and therefore offering inexhaustibly productive ways of negotiating interpretation in the public sphere.

Having provided a brief overview of the pragmatic and theoretical debates surrounding the notion of the author, this study will now focus on some of the pragmatic considerations of undertaking authorial scholarship in an age of digital media by reflecting upon my own work, as I studied Jim Andrews' practice for my dissertation, *Typing the Dancing Signifier: Jim Andrews' (Vis) Poetics* (Flores 2010).

Jim Andrews is a well-known poet, programmer and artist who has published his born-digital work online since 1995. He is also a prolific writer of essays about his digital poetics and his work, which he links to from his website Vispo.com. He has created and participated in diverse online communities, such as mailing lists, Yahoo! Groups, blogs, and on Facebook, where he promotes discussions on the poetics of digital media.

An important resource he founded was a Yahoo! group titled Webartery on December 15, 1998, which contained a lively community of writers of e-literature. In this group they discussed works in progress, debated topics of concern to their developing community, had arguments and made peace, and occasionally parted ways. Reading the Webartery postings by Andrews as he was developing *Arteroids*, for example, reveals a great number of ideas that he was considering, revising, getting feedback on, adopting, and discarding. Andrews left the group on February 20, 2005, but it continues to be a tremendous resource on the artistic practices of an early group within the e-literature community. The Yahoo! group structure automatically archives all these conversations, which remains as a testament to their artistic development

Andrews also corresponds with me and invited me to join Webartery ever since we met in Buffalo, New York during the E-Poetry Conference and Festival in 2001. Andrews has proven to be very generous with his answers to my questions, and has provided me with valuable archival materials – the *Arteroids Development Folder*, a collection of 1331 files that include 82 different versions of *Arteroids*. This is a valuable collection because by studying the source files and early versions, one can get a sense of Andrews' choices and conceptualisation of the work, which can lead to greater insight and appreciation than just by reading/playing the two versions published by Andrews in Vispo.com. There are also numerous essays, online forum postings, e-mails, documents, sound, image, and other files, all of which present a complex matrix of developing intentions and conceptualisation of the work known as *Arteroids*.

To illustrate the value of this kind of research, I will provide a brief narrative of the development of Andrews' videogame poem, leading up to the publication of version 1.0, using postings by Andrews on Webartery and materials from the *Arteroids Development Folder*.[1]

While Jim Andrews was exploring the possibilities offered by Macromedia Director 8 and its programming language, Lingo, he found a sketch of the 1979 Atari game *Asteroids* by Ian Clay which had been posted on Director Web on Feb 5, 2001 (2001).

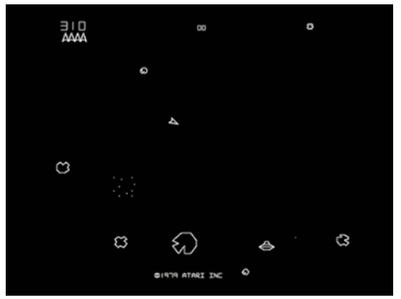


Fig. 1. *Asteroids* screenshot

Perhaps the A-shaped ship appealed to Jim Andrews' Lettristic sensibility, or some other aspect of the game captured his imagination, but inspired by the potential he saw in adapting the game for his poetic explorations, Andrews started to develop an e-poem and game he initially called *WebArteroids*. These early drafts, along with the forum discussions held in the Webartery group, are evidence of the conceptual groundwork for *Arteroids* as well as a record of Andrews' intentions for the work and are therefore a valuable resource for a media-specific analysis and bibliographical study.

The very first draft found in the Archive is titled *shipshoot*. It is purely a test of the game framework, consisting of two ships (the smaller ship for the user, the larger as a target), instructions displayed above, the ability to shoot, and the capability to detect an impact from the shot (registered as a slight movement of the otherwise static ship). (See Fig. 2).

The first draft he shared with the Webartery group is titled *shipshoot8* (see Fig. 2), in which the large target ship was replaced with a floating head that chases the player's ship in an attempt to

Fig. 2. Screen capture of *shipshoot*

'eat' it.[2] His July 2, 2001 forum posting is the first published reference to the work that would become *Arteroids*, and it includes a link to *shipshoot8* and an invitation to the Webartery community to send pictures of their face from different angles, so he could turn them into 'space monsters' (Andrews 2001a). This initial concept of the poem/game pitted the player in a destroy-or-be-eaten relationship with the disembodied heads of poets; perhaps the poets who participated in the Webartery community at that time. If the work had remained as initially conceived it probably would have become an amusing game primarily focused on strengthening an online community of poets and net artists. But for Andrews, playing with this interface was the beginning of a creative conceptualisation that led him to the text-based version now published in several versions.

Fig. 3. *shipshoot 8* screen capture
Fig. 4. Image 23 in *Arteroids Development Folder*

The reception was enthusiastic and the forum postings indicate several volunteers were sending pictures for the piece, but Andrews was already uneasy with that initial concept, as evidenced by this posting the very next day.

> The poetry in this piece... where is the poetry in this piece... ?
>
> I think it will be in the nature of the departures from Asteroids, the import of the animations and sounds... what is the player doing? Blowing up poets and/or other things also? What is the identity of the player? It is a ship now, but it could change through the game. And what are the poets and/or characters doing?
>
> I'm way open to suggestions here (Andrews 2001a).

Andrews received numerous suggestions, such as making it a kind of magnetic poetry/asteroids combination, questions about what happens to the heads when they exploded and whether they became other smaller heads, comments that dismissed the venture as a bauble, and long-rambling philosophical writings about meaning in language and poetry. As Andrews discovered the direction he wanted for *WebArteroids* and made choices that focused the project (to the point of softening the Webartery reference to rename the work *Arteroids*), the feedback from the Webartery community became focused as well, keeping itself relevant as a sounding board for Andrews.[3] The discussion in the community space was also important because it led Andrews to explain the work, the directions he contemplated, his choices, and his poetics.

Two messages from July 8, 2001 are particularly useful to reconstruct Andrews' thoughts on the directions he might take in developing the work.

> I am working on one now where the id-entity is the word 'id-entity' and the 'asteroid' is a text that grows in letters as you shoot it...if you run into the text, then the text gets set back to one letter long and the text scores points against you...if you manage to shoot it enough times without running

into it, thus revealing the full text, then you score points and dispatch it to hell.

Another one of course could be where the id-entity is the word 'poetry' and the asteroids are lots of the word 'prose' and 'ad' etc.
Or the id-entity is the word 'web.art' and the asteroids are 'net. art', eheh. Or the other way around. or historicism vs web.art or whatever.
Or the id-entity is a toywar figure and the asteroid is etoys...
Or the id-entity is a graphic or set of animations of you and the asteroids are your pet peeves (or worse)...

There can be more than one 'asteroid' on the stage at a time but only one id-entity. And the behaviors of the asteroids can vary, I'm open to suggestions here. So far I can see some that follow the id-entity, some that don't but just drift. And then there's the one I mentioned where you have to shoot it several times before it expires, and each time you shoot it it changes, like if it's a text it might grow by a letter or word or shrink by a letter or word. Or if it's an animation it might display a different animation each time it's hit, and a different one yet when it is 'destroyed'.

And the 'missiles' can change in their graphical and sonic nature also. Can be letters or words or some other graphic and the associated sounds (if any) can change (Andrews 2001b).

A foundational idea discussed in these messages is the notion of a text that gradually reveals itself through game play. The linguistic content of the text is still indeterminate here, but the adversarial relationship between the 'id-entity' (the player's 'ship') and the targets (the 'asteroids') is evident, as are the militaristic undertones ('missiles,' 'destroyed,' 'dispatch it to hell,' and 'toywar figure'). From the outset, Andrews places the player/reader and the poem/poet on either side of this relation but had yet to decide how to explore or deconstruct that oppositional structure.

The first version actually titled *WebArteroids* was published to the Webartery group on July 11, 2001, and it was the first step in a textual path that would remain consistent to the latest version of *Arteroids* (see Fig. 5).

Fig. 5. *WebArteroids1*

In this version, the word 'Poetry' has replaced the ship (or what Andrews calls the 'id-entity'), though it retains the ability to shoot at floating texts. The text of the children's song 'Mary Had a Little Lamb' appears one word or phrase at a time and moves in a random linear trajectory at variable speeds until exploded by being shot. There is no negative effect from a collision beyond losing points in the overall score, so the player is indestructible, and the game's only level ends when the player has accumulated 300 points. With this version, Andrews defines the basic structure of the game/poem and needed only to develop it along the lines of game design, mechanics, text, and sound.

Fig. 6. *Arteroids 1.0*

The following morning, July 12, 2001, Jim Andrews received notification that he had been awarded a $20,000 grant from the Canada Council's Electronic and Spoken Word program to develop *Arteroids* (Andrews 2001c). This allowed him to continue working full time on this project all the way up to *Arteroids 1.0*, which he published in *The Remedi Project* and submitted a copy to the Canada Council along with its documented source code (Fig. 6).[4]

But there are four months of work on *WebArteroids* and conversations with the Webartery group before that led to the first officially published version of the work. The list below identifies some landmark versions in the development of the work.

- *WebArteroids4* introduces blue texts that follow the player's 'id-entity.'
- *WebArteroids6* gives the blue texts an independent text to display, as well as an explosion that is distinct from the text.
- *WebArteroids8* opens with a text editor which allows readers to write or copy and paste green and blue texts for the game.
- *WebArteroids9* moves the text editor to Canto 2, reachable after reaching a score of 300 points.
- *WebArteroids25* opens with a menu which allows users to choose between Cantos 1 and 2 and displays instructions for controlling the id-entity. It also includes an original text for both the green and blue 'texteroids.'

Beyond this version, the differences become more subtle, as Andrews develops the code, materials and text for a smoother, more playable experience. After publishing version 1.01, still in many ways a work in progress, the developments continue significantly. An important landmark that doesn't fall into this list because it occurs in *Arteroids 1.38* is the addition of sound to the game.

As must be clear by now, exploring different versions of *Arteroids* can provide useful insight for those interested in studying the work, be it for analysis and interpretation, for its programming,

or for the development of its concept. An insight from seeing the work in process is that Andrews' moved from a work that was initially concerned with icons, faces, poets, and graphical objects to interact with to a more focused engagement with language in the materiality of the digital environment as envisioned and simulated by the *Asteroids* game. Andrews was already interested in words drifting in the scene of digital media: *Arteroids* allowed him to expand on that concept, its lexicon, its simulated physics, its lexicon, its interactivity, its multimedia capabilities, and its expressive potential.

As may be evident from this example, exploring the archives for an online group Andrews participated in yielded a record of his creative process, evidenced further by the unpublished versions in the *Arteroids Development Folder*. In this case, authorial scholarship is updated through a diversification of sources to include online materials and the addition of editorial theory, media specific analysis and critical code studies. If I wanted to expand my research on *Arteroid*s or any other of his works, I could explore different online resources, each of which has a specialised audience that promotes different discussions. In a recent conversation with Jim Andrews he provided detailed information on the groups and networks he belongs to. Here is a complete listing of the ones relevant to researchers interested in exploring what Andrews has to say about his works:

- **Hopper X**: a Director developer community powered by Mailman (a mailing list open source software). Jim Andrews is currently hosting it on Vispo.com, after founder Darryl Plant decided to discontinue it, though it had to be renamed as Hopper XX. The list still has a large part of its original membership and is archived automatically by Mailman.
- **WebArtery**: an ongoing electronic literature and net. art group powered by Yahoo!Groups. It is ongoing and maintains updated archives. Jim Andrews was an active participant from 1998 to 2005. Membership and a Yahoo! Id is required to search and access the archives.
- **-empyre-** 'is an online community of around 2000 artists, writers, theorists, curators and others, maintained by a team that invites guests to propose and moderate discussions, retaining the thematic integrity of the list' (empyre). This US/Australian based global community maintains searchable open archives at: http://lists.cofa.unsw.edu.au/pipermail/empyre/
- **Netartery**: is a group blog launched by Andrews in 2010 in which he posts about his developing work, things he has read, and material he has discovered online, all of which are valuable records of his artistic development. The comment thread with some of the other postings is also of interest because it is a space where the debate develops. It is powered by Wordpress and hosted on Vispo.com.
- **Netpoetic**: is a group blog launched by Davin Heckman and Jason Nelson in 2009, which features writing by Jim Andrews and a community of active artists, writers, and critics. It is powered by Wordpress and contains searchable archives.
- **Facebook**: On December 2008, Andrews became active in his use of his Facebook account. His current (as of June 9, 2012) connection to 628 friends, many of whom are well published members of the e-lit community, makes for lively discussions in this social network. His postings and activity is archived in his timeline. You need a Facebook account and to be his 'friend' to access his current and archived materials.
- **Vispo.com**: Andrews links to all his published writing online, as well as writing about him, on his website. The site has been in continuous publication since 1995, and is archived by the Internet Archives and his ISP.
- **E-mail**: Jim Andrews uses desktop software to read and manage his e-mail. He has some old archives stored somewhere, but has been deleting e-mail for years because too many e-mails stored on the computer slows down e-mail software.

This last resource is among the most important ones, but also the most endangered. Studying the letters of (usually deceased) writers and publishing them has been an important aspect of authorial scholarship for over a century. In letters, we see writers open up in private conversations that can reveal great insights into their intentions, works, and poetics. E-mail has been widely available for at least 20 years, yet the archiving of these materials has been very inconsistent. Because of the Post Office Protocol (POP)[5] initially implemented for e-mail, many records have been lost as computers crash and e-mails get deleted to keep the mail management software from being overburdened by indexing a huge dataset. Unless someone has been consistently archiving and keeping backup copies on more than one machine, they are likely to have lost valuable e-mail over the years.

A positive development in this regard came in 2004 when Gmail changed the e-mail management paradigm by offering a large amount of storage and promoting the practice to archive, not delete e-mail. With ever-increasing storage capacity per user account on Google's server cloud, combined with a sophisticated search engine, keeping adequate e-mail records has become the default practice, which should result in less loss of information. Other cloud-based e-mail services have followed Google's lead in this respect, which should provide improved access to e-mail records in the future.

Privately owned cloud-based services do raise some concerns. At what point will the users outpace the growth in storage capacity offered by these services? Will the companies or the free e-mail services they offer last forever? What would happen if they are purchased by other companies, or cease to exist? To what extent will people download extensive e-mail archives onto their own machines, if that service is even offered? How safe is the data in cloud storage? Will it be preserved for the long term?

Access issues also abound, particularly with resources that require membership and limit access in other ways. For example, opening an account with Yahoo! in order to access the groups requires you to accept their terms and conditions, and may include a certain level of usage in order to keep the account open. In order to access Webartery, you'll need to request joining the group from the moderator, who may or may not grant access. What will happen when a group becomes abandoned and there is no longer a moderator to provide access? Facebook also requires an account, plus becoming 'friends' with the person may impinge upon their privacy, or your own.

On the other hand, it is a great time to reach out to a writer by e-mail, social media, or blog and start a conversation, if they are open to it. And even if you don't have a personal connection, or don't want to create one, the records of digital interactions

are out there to be found and explored, and may attune your perception to recognise important choices artists have made in creating their work.

Notes

1. This section is adapted from a portion of Chapter 4 in my dissertation.

2. The head animation is more complex than a simple image, as described as follows by Andrews 'I borrowed my friend's digital camera and then just held it at arm's length and snapped away, looking into a mirror. Deleted most of them. Ended up with 24, but so far have only used 8. Took them into PhotoPaint and removed the background, replaced it with black, and turned the photos into grayscale. Also increased the contrast to get more shadow, more of a just black/white thing, a dark thing, and made myself into a bit more of a monster than I am in some others.' (see Fig. 3) (2001b).

3. I suggest visiting Webartery (http://groups.yahoo.com/group/webartery) and searching the message archive with the following keywords: 'asteroids,' 'webarteroids,' and 'arteroids' to access the discussion of the work in progress.

4. The file 'arteroids1_for_Arts_Council' in the *Arteroids* Archive is a working copy of *Arteroids 1.38* with the added benefit of a voice recording of Jim Andrews discussing the e-poem.

5. The Post Office Protocol works the following way: the server assigns a limited storage space to the user where it places incoming e-mail, the e-mail is accessed by the client's software and stored on their machine's hard drive, and the e-mails on the server are deleted.

Bibliography

Clay, I. (2001) 'New Is Old.' Director Web. Feb 5.

Andrews, J. (2001) 'Arteroids' *Vispo.com*. http://www.vispo.com/arteroids/ [Accessed June 29, 2012].

— (2001a) 'more webArteroids' *Webartery*. July 3. http://groups.yahoo.com/group/webartery/message/12050. [Accessed June 29 2012].

— (2001b) 'RE: [webartery] webArteroids' *Webartery*. July 8. http://groups.yahoo.com/group/webartery/message/12123 [Accessed June 29 2012].

— (2001c) 'surprise' *Webartery*. July 13. http://groups.yahoo.com/group/webartery/message/12182 [Accessed June 29 2012].

— *Asteroids* Development Folder. Unpublished. Digital Files. 2008.

Andrews, J., et. al. (1998) 'Webartery' *Yahoo Groups*. http://groups.yahoo.com/group/webartery/ [Accessed June 29, 2012].

Barthes, R. (1977) 'The Death of the Author' in S. Heath (ed.) *Image-Music-Text*. London: Mill and Wang, pp. 142-148.

Bryant, J. (2002) *The Fluid Text: A Theory of Revision and Editing for Book and Screen*. Ann Arbor: University of Michigan Press.

Compagno, D. (2012) 'Theories of Authorship and Intention in the Twentieth Century: An Overview' *Journal of Early Modern Studies*. vol. 1, no. 1. pp. 37-53.

Flores, L. (2010) *Typing the Dancing Signifier: Jim Andrews' (Vis)Poetics*. PhD Thesis. University of Maryland. Available at: http://hdl.handle.net/1903/10799 [Accessed June 29 2012].

Foucault, M. (1984) 'What is an Author?' in P. Rabinow (ed.) *The Foucault Reader*. New York: Pantheon, pp. 101-120.

Harkin, P. 'The Reception of Reader-Response Theory.' 2005. *College Composition and Communication*. vol. 56, no. 3. pp. 410-425.

McGann, J. (1991) *The Textual Condition*. Princeton: Princeton University Press.

Melville, H. (2006) *Typee*. in Bryant, J. (ed.) Richmond, VA: University of Virginia Press. http://rotunda.upress.virginia.edu/melville/default.xqy. [Accessed June 29, 2012].

Rackham, M., et al. (2002) *Empyre: Soft Skinned Space*. http://www.subtle.net/empyre/ [Accessed June 29, 2012].

Wimsatt, W.K. & Beardsley, M. (1954) 'The Intentional Fallacy' *The Verbal Icon*. Lexington: Kentucky University Press, pp. 3-18.

PLAYERS ONLY LOVE YOU WHEN THEY'RE PLAYIN': COMMUNITY AS ALGORITHM IN PROGRAMMABLE POETICS

Andrew Klobucar & Chris Funkhouser

The digital era of information prompts an array of new perspectives in epistemology. While the range of questions and approaches remains broad, deriving, as they do, from a rapid stream of constant technological developments in information processing, most issues commonly foreground a unique interdependence between knowledge and its mediation that has been characteristic of western philosophy for the past five centuries. The essential role media formats play not just in rendering our social environments, but helping us interpret and verify them is generally accepted. In this paradigm, to interact socially and cognitively with the world refers less to our physical engagement with it and more to the methodologies and notational structures we employ to formulate it. Accordingly, the world itself as a separate substantial and observable environment, along with our own somatic presence in it, will often appear as little more than a kind of referential conceit. Michael Heim speaks to this very issue philosophically at the end of the 20th century, recognising distinct ontological paradoxes in the then newly emergent VR technology: just how our culture understands the term 'reality', he observes, can only weaken and become less physically certain 'as it stretches over many virtual worlds' (Heim 1993: 83). Heim's comments recall again digital culture's especially complex relationship with the physical world around us; yet they also capture a more extensive ontological impasse that has developed from the transformative effect information formats and structures have had on all modes of social relations. The ever-growing amount of statistical data that social media and semantic technologies are able to convey along with the referential content of a message supports an increasingly multi-layered approach to communication in general. Addressing this relationship, both Katherine Hayles and Nicholas Gessler refer to the concept of 'intermediation' to describe how transfers of information from one medium to another (i.e., from page to screen, screen to mind, etc.), always transform both the new medium and the evolving information pattern into increasingly complex systems of interaction (Hayles 2005: 3-5; Gessler and Hayles: 482-499). Gessler and Hayles speak not only to our steady reliance on telecommunications to stay in contact with each other , but also to some of the more theoretical aspects of our inter-engagement as active media users who are technologically, linguistically and, as we argue here, 'algorithmically' networked within larger information-based communities. Ongoing technical innovations in the construction of clocks and watches since at least the 15th century have afforded modern

Fig. 1. Screen capture of opening interface for *The Apartment*.

culture ever more accurate, better quantified representations of time; at the same time they have instigated a very specific concept or conceptual framework for the world around us as an immense clockwork mechanism (Hayles 2005: 4). For Hayles, this type of abstract parallel in perception, where the structure of a technical apparatus is epistemologically extended into a working model of our experiential reality, requires a certain cultural blindness to intermediation – nothing less, in other words, than a referential leap over the semantic gap that separates how we organise information from its subsequent application towards a constructed understanding of the 'real' world. If, on the other hand, we acknowledge the constraints of these apparatuses in terms of describing or rendering our social interaction with each other as well as with our immediate surrounding environments, then we face a much more disjunctive relationship between the various mechanisms of information processing we continue to build and any resulting social and epistemological interpretations.

Such questions together constitute an important theme in many works of programmable literature, especially those that explore openly analytical and notational structures of social interaction. In Marek Walczak and Martin Wattenberg's *The Apartment* (2001), different viewers communicate literally through the joint construction of two and three dimensional blueprints for a set of collectively imagined apartments. The layout and position of the various rooms of each separate apartment correspond to phrases, lines and sentence fragments input by the participating viewers. Opening the program brings the viewer to a small interactive screen with a single blinking input field (Fig. 1). Engaging with the work requires the viewer to type and submit a single sentence of his or her choice, punctuation being optional, whereupon select words suddenly become operative, providing the title of the work and an accompanying visualisation. Figure 2 shows both the image and title constructed out of the input sentence 'The world is your oyster.' Three words ('world', 'your' and 'oyster') have been isolated from the clause and respectively aligned both semantically and visually with the terms 'window', 'bedroom' and 'dining'. The visual organisation of the terms represents a type of semantic structure or framework, situating, as it does, the various rooms and housing related objects in an array of different layouts for specific apartments or condominiums. Thus we watch, via the procedures of a very capable semantic analysis, how random sentences are able to transform both symbolically and conceptually into myriad living spaces. No matter what context each phrase may first suggest, an original architectural design quickly emerges to re-frame all key lexical elements, in terms of urban construction and planned housing.

Random variables, such as the size and alignment of the rooms, also help keep the project sufficiently dynamic. Specific words may dependably conjure up the same concepts of space – for

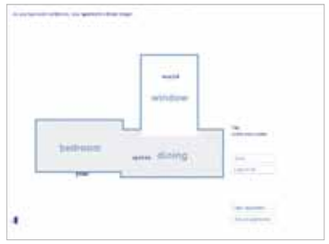


Fig. 2. Screen capture of *Apartment* blueprint constructed from initial input sentence.

example, the term 'pyjamas' invariably ensures a bedroom will appear somewhere on the screen. The size and shape of that bedroom, however, will depend upon what other spaces happen to be adjoining it and how many of these spaces are simultaneously laid out in other areas of the apartment: the greater the number of distinct rooms, the smaller the size of each individual space regardless of how large the apartment is in its entirety. What's important is the ratio of the room number to room size, operating as part of the overall semantic relationship.

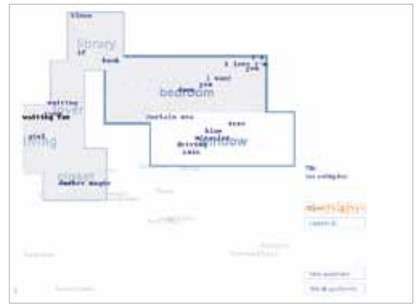


Fig. 3. Screen capture of 'sea waiting tree.'

Although hardly traditional, in narrative form, each visualisation has its own story to tell. Twelve categories of apartments (conceptual neighbourhoods, perhaps) serve to help organise the various projects as literary entities. Living spaces can centre on themes of 'vision', 'motion', 'body', 'work', 'group', 'truth', 'story', 'glamour', 'change', 'food', 'intimacy' and 'secrecy'. How functional the categories are with respect to each work's interpretation, remains a topic we can only introduce briefly here. Under food, for example, a blue print entitled 'sea waiting tree' calls forth the design for a four-room apartment (Fig. 3), consisting of a library, foyer, living room and bedroom, the bedroom being the dominant space in both size and location. Both the title and foyer space evoke a certain suspense, where a theme of active expectation is duly conveyed through the repetition of the term 'waiting'. Thus we find ourselves hovering in anticipation above a 'waiting room' and in it a 'waiting girl,' 'waiting far', pacing between the foyer and living rooms. Just below the room, in a fair sized closet space, references to 'magic' and 'other dust' dominate. Across the complex, the bedroom enframes pleas of love and desire. A sizeable window on the south end of the bedroom space offers a descriptive setting constructed via images of the 'blue sea,' 'trees' and 'driving rain.' On their own, the images and references circulating through the rooms are not very evocative – phrases like 'blue sea' are too general to convey much of a context or situation. Yet, arranged anew, in terms of a specific apartment space, the different lexical elements suggest together the social experience of domestic living. In this context how is one to understand the act of 'waiting' or 'waiting far'? Here, usually aligned as such, the words clearly recall a sense of space between a foyer and a living room. A highly original semantic alignment is in operation. All subsequent narratives or imagery with any attendant concepts are identifiable as attributes of specific spaces in our homes.

The rooms, as they appear, may even be compared to genres, but not in the traditional sense of a literary device as a framework for understanding relations between audience, situations

and voices. Rather, the genre has become a mode for dividing up and interpreting a single floor housing unit – which in itself takes on the function of an active model for language use. For both Wattenberg and Walczak, communication itself, as both an act and epistemological framework, is to be imagined at its most fundamental level, not as verbal exchange between two or more individuals, but as an apartment – a unique dwelling space made up of specific rooms aligned together in distinct patterns or schema. Thus, in the authors' world, whatever concepts and ideas conveyed by our language ultimately derive from domestic living spaces. To understand our world, to interact within it, or so our language suggests, is to build, design and align rooms together.

In its functioning as a programmable work, then, the site or installation is coded to parse an impressive variety of input words, both lexicographically and grammatically, and visually reorganise them according to any underlying architectural themes or motifs that are subsequently found. Again, as suggested above, this level of processing offers the authors a kind of 'semantic analysis' where lexemes are re-contextualised by the program, both spatially and object-wise, in terms of a domestic living environment. The resulting alignments are laid out in the form of an ever-expanding blue-print, which is then further situated in an even broader topography of an imaginary city. The end product not only transcribes lexical patterns into architectural ones, the text into architext, if you will, but also offers viewers a very distinct symbolic infrastructure for new social formations. The information set before us on screen, in other words, effectively evokes a multi-modal semiotic environment as an experiment in communal spatial engagement. The formation itself is hardly subtle. We might note here, in fact, how the initial effort of inputting phrases or sentences into the text field infers first a simple, individual speech act – much as texting by phone immediately suggests an image of two people communicating verbally with each other on a one-to-one basis. One does not see the text message without imagining individual subjects engaged in the conversation that the text supposedly represents. Facing the screen, engaged by the flashing cursor, each viewer is unambiguously retained to cast his or her individual message outwards into the digital ether. A response may or may not be forthcoming, but the communication context certainly implores us to expect some kind of reply in kind. Instead, though, *The Apartment's* parsing mechanism actively dispels any such mode of interaction. What begins as a typical individual utterance literally breaks apart in front of the viewer, as certain words are preserved and others jettisoned to form a constantly expanding topography. The selection process thus re-transcribes each typed sentence, allowing the input field to conceive for us a completely new visual schema of social interaction. At the same time, acknowledging such constraints serves to remind us of the social, interactive quality of all information-based knowledge and its distribution along prescribed media networks.

Other more ecologically informed, social interactive projects, however, are less concerned with building integrated symbolic systems and choose to focus instead on the cybernetic models of interpersonal networking in writing. In the case of Elshtain and Trowbridge's on going Gnoetry project, digital networks are able to nurture complex, creative and, at times, even communal bonds between individuals and machines. Text generating software, like the original Gnoetry 0.2, coupled with an ever-growing array of different grammar parsers and character n-gram programs, help establish collective writing practices as process-oriented enterprises. The resulting works, many of them built by authors in dialogue with each other, demonstrate how the evolution of linguistic structure depends as much upon active social engagement as on rule-based routines and patterns. Here, both approaches, the symbolic and the cybernetic, are analysed as equally significant to programmable writing practices. Gnoetry is thus both a discourse and, quite explicitly, a set of tools – a software program. Further, recalling how Gnoetry – referring specifically to the software program – brought together various programmers, poets and theorists, it seems accurate to align the term with a specific discursive community. Arguably, such projects, invoking, as they do, information-based, analytical interactions, tend to prompt communal modes of engagement and constant textual exchange, instead of cultivating individual readers or listeners. The works collected in the anthology *Gnoetry Daily*, Vol. 1, being artefacts – in line with the broader lineage in which they are situated – that partly acquire cultural significance through their social distribution. As discursive objects of information they invoke a unique mode of interaction based upon their ongoing distribution through a network. Reading or engaging with a gnoetry piece remains comparable to any analytical investigation, where the interpretation is produced between the participants themselves, not between any single participant and the work at hand.

As a discursive community, Gnoetry readers and practitioners function not unlike any group of social scientists poised to examine, within whatever confines their respective disciplines warrant, the possibilities of lexical objects. Here, interpretative practices must abandon more traditional neo-Aristotelian responses to the text in terms of either a rhetorical (argument-based) or poetic (diction-based) mode of engagement to embrace an empirically driven, almost archaeological relationship to language as a 'found object' of study, ready for dissection – particularly given the fact that these are works that process input text rather than generate works from syntactical databases. Traditional rhetorical and poesis-based approaches tend to prioritise language as a means to replicate, or at least reference indexically, predetermined messages directed from a distinct sender to a single receiver – an author to his or her reader, in other words. Rather, cast anew as an artefact of discovery, the discursive evidence we see in *Gnoetry Daily*, Vol 1 – discursive objects of information – cannot be so easily partitioned into a model, where a set format carries specific content relevant to a single context. The content or meaning associated with these works, as with any discursive object, derives primarily from the textual and social networks in which it exists. In this paradigm, it might be useful to think of language and its use primarily as what interactionist theories of communication and neurolinguistics describe as a socio-cognitive event. Such theories further present modern epistemology as a joint product of a bio-linguistic predisposition towards symbolic abstraction and one's physical or sensual interaction with external reality (Larsen-Freeman & Long 1991: 145-165).

The use of computation in literature and poetics has a well-defined history, as has been summarised in Funkhouser's *Prehistoric Digital Poetry* (2007). Of particular interest here is the strong cultural and technical line of development that can be seen reaching from various current programmable writing projects, like Gnoetry, back to earlier experiments with computers and automated text generation, like TRAVESTY (Kenner & O'Rourke 1984). Both projects are, of course, traceable to an even earlier, rather singular testament to 'the computer's randomising power,' Richard Bailey's 1973 collection *Computer Poems.* To work through this historical lineage, beginning perhaps with TRAVESTY, is thus to explore a constant re-purposing of the artefacts at hand. In repurposing, the discursive community understands all objects as inherently malleable, attributing meaning to interfaces or modes of usage, rather than any concept of a pre-existing message or set of values.

Thus we have a community defined first and foremost by the arts, practices and techniques of communication, exhibiting accordingly a fervent passion for nearly all forms of lexical, semantic and syntactic interfaces, yet with subsequent little interest in a framework of reference to any separate content or idea beyond the modality itself. These discourses do not target or help situate existing communities, so much as they literally define them – make them manifest via interactive communication technologies. To look again to contemporary scientific practices, the discipline quite plainly delineates the community and its chosen compositional strategies.

One of the most significant historical markers of such methods remains, Hugh Kenner's and Joseph O'Rourke's early semantic technology and text generator, TRAVESTY. Collaboratively authored in the computer language Pascal, TRAVESTY was especially influential in experimental poetics, leading to a continuum of works created by other artists and a greater awareness of form in general. In TRAVESTY users are prompted to insert input text and to set the desired amount of output and the size of the selected configuration (up to nine characters in the original version of the program); the program itself supplies no dictionary or database. TRAVESTY scrambles (or permutates) text by replacing each character group in the text with another (of the same size) located elsewhere in the source. Works by other authors had been used as source texts for databases in the past (Theo Lutz, Nanni Balestrini and others), but TRAVESTY's approach to creating a digital poem involves a 'manipulation' rather than a 'generation' of text (Hartman 1996: 95). TRAVESTY, in particular, highlights the imperative role of a person's input in choosing a computer poem's source or database. In TRAVESTY words or phrases are not recycled but the combination or patterns of letters in the words themselves, and the spaces between words, become the basis for the program's output. Though initially statistical in character, these objective, analytical qualities may later be subject to personalisation (or not) by an author exercising editorial prerogative.

Essentially, Kenner and O'Rourke's article *A TRAVESTY Generator for Micros* (Kenner & O'Rourke: 129-31, 449-69) argues that the frequency with which combinations of letters appear can be used to generate plausible randomised texts ('pseudo-texts') when the computer program makes manifest those frequencies (ibid. 129). The relationship between these two texts, the article deduces, is that 'for an order-n scan, every n-character sequence in the output occurs somewhere in the input, and at about the same frequency' (ibid. 449). The authors demonstrate that 'essentially random nonsense can preserve many 'personal' characteristics of a source text' (ibid. 449). When n – or the number of letters in the text sample or 'pattern length' – is large, the commonalities are glaringly mirrored; when n is small, the roots of the words are less defined and traceable, making the texts and words more distorted (ibid. 464). With a small number of letters in the sample the permutated output becomes more divergent from norms, as many words can (and do) share a pair of letters. Kenner's observation is logical: words that share the same letter combinations often share the same etymological roots. Parallel texts created by TRAVESTY with a greater number of input letters tend to embody more original characteristics of the source text, for the combinatory patterns it uses will be unique.

TRAVESTY-like methods, which re-presented radically processed source texts, were adopted into the practices of several authors who discovered the program. As chronicled in *Virtual Muse: Experiments in Computer Poetry*, Charles O. Hartman began using TRAVESTY (which he believed examined 'the relation between the original and its transformation and deduce[d] various things about the language of the original') to construct a long poem entitled *Monologues of Soul and Body* (Hartman 1996 :54). Subsequently he explored permutation and combinatorial possibilities by creating DIASTEXT in the late 1980s. Poet Jackson Mac Low had created *Virginia Woolf Poems* using a 'diastic' method in 1963, whereby a phrase (or even a word) from a text is chosen and then words in a source text that share the same verbal or letter patterns are extracted and used to create a new poetic work. Transforming Mac Low's arbitrary method into a program was not difficult because the process itself is algorithmic and therefore more systematic with fewer variations caused by random elements. The program rapidly performs the artist's deterministic tasks once an input text and 'seed' phrase are chosen (Hartman 1996: 96). Mac Low favoured Hartman's program and used it to compose several poems and books. In 1989 Mac Low also began working earnestly with Jim Rosenberg's DIASTEXT and DIASTEX4 (which allows the user to choose and employ a separate index, instead of using the whole source text as the index), along with TRAVESTY. These programs profoundly influenced his title *42 Merzgedichte in Memoriam Kurt Schwitters* (1994). Hartman's program mechanically accomplished – with some variation and advancement – the procedural work that Mac Low had practiced for many years (which also involved a significant degree of systematic editing and author intervention). Today, we see similar methods being practiced in the n-gram mechanisms favoured by authors associated with Gnoetry (see below).

In many ways, digital culture is best understood according to these terms. That is, it is a culture made manifest by the medium first and the message second. To engage at this level, one must use the tools available – inferring, in this way, the instrumental function of language as a notational structure or framework. While, these discursive communities embody their own type of distribution network, they function primarily to continue exploring a shared aesthetic as well as to propagate its effort. To interpret a work is to continue to facilitate its distribution within an open and ongoing process of information exchange – not to isolate or delimit the work's significance with respect to a single context.

Comparable to Walczak's and Wattenberg's virtual city-dwellers, with the 'Gnoets' we have a distinct discursive community operating (or interacting) as a distribution network with the primary purpose of facilitating open and continuous information exchange on programming and literary aesthetics. Language functions first as a social medium, literally making manifest an interactive environment, where semantic and syntactic frameworks offer very specific grammatical and lexical protocols, which, in turn, are able to direct or govern the community's actual existence. Most importantly, referring again to Hayles's and Gessler's theory of intermediation, is that neither programmable poetry project discussed here extends each respective concept of community to include a literal or 'real' social body outside the network or medium in operation. Similarly, typical grammatical frameworks do not comprise visual models as distinct as a single apartment or domestic living space, nor are they meant to compromise their general functionality by referencing any specific social or physical context. The subsequent semantic analysis, however, is equally well defined. Like *The Apartment*, Gnoetry, the software program that brings these individuals together, is able to synthesise a language model based upon the analysis of 'statistical properties' in certain input texts. The text sources tend to be larger and more developed than the phrases and sentences that form the various apartments in Walczak's and Wattenberg's topography, yet the network is built around comparable constraints. The resulting configurations suggest a similarly functional relationship between language and community interaction, whereby the patterns and properties found in the former

are identified as social constructions – transcriptions, in other words, of active social engagement. The 'buildings' created by each participant exists in relation to those who build around it.

It may be tempting here, critically speaking, to compare a community derived from language and media protocols, as opposed to the more traditional inverse relationship, to Baudrillard's notion of simulacra (1988), where representational forms have been socially and epistemologically stripped of any actual, concrete referent – where, in other words, the referent and reference have been effectively re-combined into one and the same entity. Yet, such a critique remains premised on the implied expectation that media representation should, by definition, be indexical in both its format and structure – mimetic, in the sense that whatever referent being conceptualised must have some a priori actual existence. But this is not the case with these types of writing experiments: programmable works maintain that language functions as a conceptualising apparatus.

Regardless of what ideological concerns we may have with respect to the media's increasingly prominent role in knowledge construction, we have before us, in the notational structures of Gnoetry, a kind of imprint of shared analysis – a discursive echo, if you will, of cognitive interaction. The resulting concepts and information rendered, of course, do not infer knowledge in an indexical sense – that is, in the sense that the narratives or texts are literally describing the world *per se*. The patterns and alignments presented demonstrate more the potential knowability of our social environment via our shared sense of order and legibility. The N-gram is best understood in this context as a distinct and important semantic protocol. It provides no direct relationship to the actual world but instead lays out before us an uniquely functional discursive materiality. While such discourses refer to nothing actual – that is, neither the phenomenal experience nor its source – we see objective evidence of active cognitive engagement.

Looking again to Kenner and O'Rourke's aesthetic focus on letter combination frequency as a potential source of textual meaning – as a consistent, interpretable mark of discursive structure – we see the importance of information as both a cultural and social element. TRAVESTY brings to poetics – and the literary arts, in general – attributes like pattern length, inscribing them accordingly with an inherent cultural value. Despite its many incarnations, the consistent characteristics of the input text seem to invoke a signature identity. Recall here, again, how Hartman attributed to such patterns a linguistic deduction of characteristics of 'language of the original.' A similar acknowledgement of information's overall socio-cultural worth enframes both the application and usage of edde addad's eePoGeS or *Poetry Generation Sketchbook* project. As with TRAVESTY, eePoGeS provides writers with the capacity to process source texts in a comparable fashion by isolating and making manifest specific combinatory patterns derived from the semantic and syntactic structure of different source texts. Acknowledging its '. . . complete failure as a robust, elegant, and user-friendly application for unsupervised poetry generation;' the author, nevertheless, considers its value to be practice-driven and therefore a 'complete success as a fun-to-code app that helps me write poetry' (eddeaddad 2012, n.p.).

The construction process involves several notational models and discursive devices, some based upon N-Gram formulations and others on phonemic patterns or frameworks. In one option, the program presents users with several ready-made source texts culled from Shakespeare's sonnets (Fig. 4).

Fig. 4. Screen capture of ePoGeeS modelling tool.

In addition, and even more significantly, the user is given the choice of submitting his or her own specific source text, which can accordingly be parsed and analysed using the word or type-based bigram model, along with the program's phonetic and rhyming tools. The result is a more dynamic structure, built from probability, but less predictably.

Even text taken from this very paper can supply (one hopes) a suitable source for a new model. Below a few sentences analysing the themes discussed previously with respect to Walczak's and Wattenberg's work are submitted into the new language model field: namely,

> Such views constitute together an important theme in many works of programmable literature, especially those that explore analytical and notational structures of social interaction. In Marek Walczak and Martin Wattenberg's 'The Apartment' (2001), different viewers communicate literally by constructing together two and three dimensional blueprints for a set of collectively imagined apartments. The layout and position of the various rooms of each separate apartment correspond to phrases, lines and sentence fragments inputted by the participating viewers.

Figure 5 shows some of the details of the above paragraph being broken down by the bigram into an order that is both alphabetic and ordered according to the number of two-word phrases with which it is associated – what addad calls 'counts'.

Clearly, the word sampled above with the most numerous two-word phrases is (not surprisingly) the conjunction 'and'. It has been placed in our writing with the words 'martin', 'notational', 'position', 'sentence' and 'three'. Clicking on the phoneme button just to the right of 'language' produces the information we see in Figure 6. The word 'apartment' has been broken down into the phonemes AH0 P AA1 R R M AH0 N T. Having been analysed, the subsequent semantic relations, in combination with other parameters chosen – for example, number of lines, enjambment, etc. – yield the following 8 lines:

> Such views constitute together two
> And position of programmable literature, lines
> And position of the participating viewers. The participating
> Viewers. The participating viewers. The apartment correspond
> To phrases, lines and position of
> The participating viewers. The apartment correspond to
> Phrases, lines and position of the participating
> Viewers. The layout and three dimensional blueprints

Fig. 5. Screen capture showing bigram information.
Fig. 6. Screen capture showing phoneme information.

One is easily impressed with the effect of enjambment on line length and the overall sound of the piece (Fig. 7). The bigram word model helps maintain a certain consistency between the two texts via root phrases found in the original selection of sentences, while at the same time re-aligning them to emphasise effects of repetition and rhythm. One cannot read the work produced without focusing on various personae identified as 'participating viewers' or perhaps the general theme of viewer participation.

The combination of different models used here offers us a different notational framework, perhaps not one as visually or lexicologically systemic as *The Apartment*, but nevertheless just as socially and epistemologically poignant. In fact, a socio-cognitive event drawn or made apparent via eePoGeS in many ways conveys a much more actively engaged relationship to language than the dwelling spaces constructed through Walczak's and Wattenberg's project, being, as it is, less dependent upon pre-established lexicological schema. This more varied interaction with source texts is certainly part of addad's aesthetic as well as a political aim of the tool. No semantic or phonetic model can ever be considered definitive with respect to this particular practice, in which no context is stable. The lack of a consistent

Fig. 7. Screen capture of the control panel in eePoGeS for selection of line numbers, enjambment features, accented vowels, etc.

semantic and notational system can be compared and, in some ways, contrasted not only with a work like *The Apartment* but also other generated text projects like Nick Montfort's *Taroko Gorge* (2009).[1]

Alternatively, eePoGeS demonstrates a more active engagement with its semantic tools. If there is a consistent cultural logic being conveyed here, it is more broadly that the conceptual and aesthetic capacity of language is first and foremost a mode of social engagement. By basing any and all semantic forms on various source texts, rather than a single model, eePoGeS shifts the construction process to the viewer's or user's individual engagement with the software. Patterns emerge, concepts materialise, but primarily as an effect of participatory engagement. Thus we see community, as in *The Apartment*, as a digitally encoded, semiotic environment, a theme that continues to be prominent in many works of programmable literature, especially those that explore analytical and notational structures of social interaction.

Notes

1. Written in Python, the digital work offers a more regular semantic schema employed via a single grammatical template. An algorithm randomly shuffles and re-shuffles lexical elements from a source text every time the project's URL is loaded or refreshed, but both the schema and template ensure that a rather remarkable verbal consistency takes place.

References

Bailey, R. W. (ed.) (1973) *Computer Poems*. Drummond Island, MI: Potagannissing Press.

Baudrillard, J. (1992) 'Simulacra and Simulations', Brooker, P. (ed.) *Modernism/postmodernism.* 2nd edition. Oxford: Blackwell. pp. 151-162.

eddeaddad (2012) 'Notes: Usage and Technical Details' *Mostly Computational Poetry*. http://notes.eddeaddad.net/?page_id=22> [Accessed 1 June 2012].

Eric, E. & Chadahardy, M. (2012) 'Gnoetry Daily: Human-Computer Poetry Generation'. http://gnoetrydaily.wordpress.com/

Funkhouser, C. (2007) *Prehistoric Digital Poetry*. Tuscaloosa, AL: UP Alabama.

Hayles, N. K. (2005) *My Mother Was A Computer: Digital Subjects And Literary Texts*. Chicago: UP Chicago.

Hayles, N. K. & Gessler, N. (2004) 'The Slipstream of Mixed Reality: Unstable Ontologies and Semiotic Markers in The Thirteenth Floor, Dark City, and Mulholland Drive' *PMLA Publications of the Modern Language Association.* vol. 119, no. 3. pp. 482-499.

Hartman, C. O. (1996) *Virtual Muse: Experiments in Computer Poetry*. Hanover, NH: Wesleyan UP.

Heim, M. (1993) *The Metaphysics of Virtual Reality*. Oxford: Oxford UP.

Jackson, M. & Schwitters, K. (1994) *42 Merzgedichte in memoriam Kurt Schwitters: February 1987-September 1989*. Los Angeles: Station Hill.

Kenner, H. & O'Rourk, J. (1984) 'A TRAVESTY Generator for Micros' *Byte*. vol. 9. no. 12. pp. 129-31, 449-69.

Larsen-Freeman, D. & Long, M. H. (1991) A*n introduction to second language acquisition research*. New York: Longman.

Wattenberg, M. & Walczak, M. (2001) 'The Apartment' *Turbulence Net Art* New Radio Performing Arts. http://www.turbulence.org/Works/apartment/apartment.html>

RENDEZVOUS: A COLLABORATION BETWEEN ART, RESEARCH AND COMMUNITIES

Cécile Chevalier

Abstract

Through the evolution of digital technology, social networks and Internet, cultural memory has been transformed, both in relation to how memories are represented, and how they may be engaged with or re-experienced.

Exploring these transformations, this paper will introduce *Rendezvous*, a practice-based research project developed in collaboration with communities of individuals aged over 65 – communities for whom reminiscence has become central; here, achieved through art as a social practice in contributing to their quality of life.

I will consider how digitally materialised micro-narratives in media art practice transition between one medium to another and locate within the field of cultural memory. This will question how the narrated self is materialised and mediated as a renewed experience in digital media art practice.

I will also ask how digital media art can be a transitional location experience for collective remembering and, ultimately, how digital media art can intervene in the changing practice of memory. Digital interactive installations can offer possibilities for physical engagement that might be used by artists to create distinctive prosthetic environments for reminiscence, re-sensitising and debate within culture memory as a social practice.

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Fabrica & GOA

Rendezvous is a collaborative project with Black & Minority Ethnic Elders and WRVS (charities concerned with both social inclusion, and the wellbeing of elderly community members). It is also one of nine projects, commissioned by Fabrica for the 'Growing an Older Audience' programme (GOA) and funded by the Arts Council, South East. Fabrica is a contemporary visual arts charity, housed in a Grade 2-listed church in the centre of Brighton.

GOA's aim is to increase the engagement of such communities with contemporary art and Fabrica as a social space, whilst creating a role and a voice for its participants. GOA is also offering various sustainable roles to outreach and bridge communities through dialogue and engagement with contemporary art. It is at the core of both programme and projects to offer its participants opportunities to enhance their quality of life through social engagement, intellectual stimulation and self-esteem. Most of the commissioned projects lie in the art sector, offering various forms of engagement and perception in current contemporary art work; from a multi-sensory perspective (*Second Sight* 2012), to a digitally mediated experience (*Rendezvous* 2012), and from a critical discussion (*Conversation Piece* 2012), to a cultural dialogue (*Going to See Culture Together* 2012). Central to these projects is the focus on community outreach from community halls, as well as via the Internet or the gallery space itself. Most GOA projects are brought together at Fabrica as a Special Day Event, bringing the general public, the participants and their communities together in the engagement, perception and experience of contemporary art practice.

My own role in *Rendezvous* is foremost as a digital artist and project leader while being part of the GOA creative team.

Rendezvous' concept is based on the defragmentation and reconstruction of life-narratives through art practice as an experience.

I therefore collaborated with over 65 year old individuals, as cognitive and memory research suggest that older individuals return to formative memories more frequently. Rubin, Wetzler & Nebes' Lifespan Retrieval Curve (1986: 202-221) demonstrates that formative memories from between the ages of 10 to 30 are more often recollected when subjects reach their 50s and beyond. This study involved showing various images to participants who would, in return, recall their memories, placing them on a timeline once the exercise was completed. Although I have cited this study because of its focus on the age group I am working with, I am also aware that the memories recalled in these exercises may not be the only ones remembered, but are more likely to be the most fond or traumatic, since these memories help individuals construct their values, aspirations, and identities.

Rendezvous

At its core, *Rendezvous* (Fig. 1) is a collection of fragmented life narratives, mediated through creative processes and digital technologies (software, script code, QR technology). These were gathered during sessions with three separate community groups over the age of 65 (WRVS Coldean, WRVS Portslade and BME Elders, Brighton) at their respective and local community halls, where they would regularly socialise. The groups varied from 8 to 30 members.

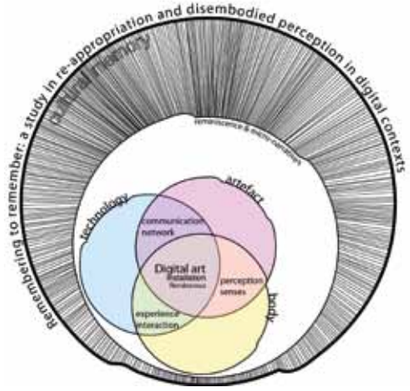


Fig. 1. *Rendezvous* research project overview.

In this social process, where the narrated self is mediated from one object to another, *Rendezvous* highlights the authorship and ownership of the narrated self, from the storyteller, to the artist, to the audience and users.

Caroline Bassett discusses life narrative, via Ricoeur, as a continuous process of narration (Bassett 2007 : 112), reflecting the mediation and the experience of the micro-narratives through the digital art work, the re-appropriation of narrative through the re-experienced and re-narrated. *Rendezvous* as a whole encapsulates Bassett's 'tale at its fullest', 'transfigured' and 'described' (ibid.) but in this case, the story is framed within three key stages, which I describe as the 'ethnoscopy', the 'creative bioscopy', and the 'embodied experience'.

The 'ethnoscopy' stage.

I chose the term of 'ethnoscopy', as ethnography did not quite capture the method used to gather visual records and materials. This term has been previously defined by Morris B.Holbrook, describing 'ethno' as a reference for 'the intended focus on a society's culture' (Stern 2004: 232); and 'scopy' for 'the researcher's ability to see or to visualise the key phenomena of interest in pictorial form' (ibid.), which, in the context of *Rendezvous*, is relevant as one of its foci is of visual collective narrated selves.

The 'ethnoscopy' stage of the project saw a series of social activities organised. It was arranged to meet each group where they would regularly socialise in a local community hall (Fig. 2). Participants were asked to share fragments of their life stories through the use of personal objects, or relics that they would have tried to remember to bring to the meeting. If these objects were forgotten, then participants were asked to think of an object at home and the personal narrative they attached to it.

Nicola Benge, the workshops coordinator, was familiar with all the groups through a previous, 3-year funded WRVS and English Heritage project and consequently all participants were at ease with sharing their personal stories. Each group was asked to complete questionnaires so that I could reflect on the running of the activity and whether the participants enjoyed the social and cultural experience.

The social activity was about sharing a self, generational, transgenerational or locative narrative. While the workshop coordinator would facilitate the activity, my role, as a digital artist, was to photograph the experience, scan or photograph the objects

Fig. 2. Workshop participants from WRVS & BME Elders sharing personal narratives in local community halls.

and make audio recordings of the narratives. The data and materials were then categorised by theme of discussion (audio, Fig. 3) and by individual group (photograph) as well as by answers (questionnaires, Fig. 4).

Fig. 3. Key themes discussed by WRVS and BME Elders participants.

This process was key in three respects: the first to gather materials to create a collection of visual narratives; the second was data analysis to understand where those narratives were placed, what kind of narratives were present, and finally, as to whether the ethical values of the project were met. The 'ethnoscopy' process could be seen as having little connection to creative practice, however on reflection, when one is making a film, the filmmaker will have to research location, characters, props, and shoot more than is required; this stage is still part of the creative process, as is the 'ethnoscopy' approach. One can observe and analyse society and culture, and begin to materialise its concept through a collection of micro-narratives that objects may hold. Micro-narratives are considered as day-to-day narratives, as an ensemble of beliefs, values and aspiration, forming the self. These narratives would most often be collected and become part of an historical or heritage narrative within cinema or literature, and therefore within cultural memory. Micro-narratives, in this case, are located as part of the process of creative digital art practice, digital relics and cultural memory.

The workshop coordinator's roles concluded with the end of the 'ethnoscopy' stage, while the participants saw their role paused until the 'embodied experience' stage.

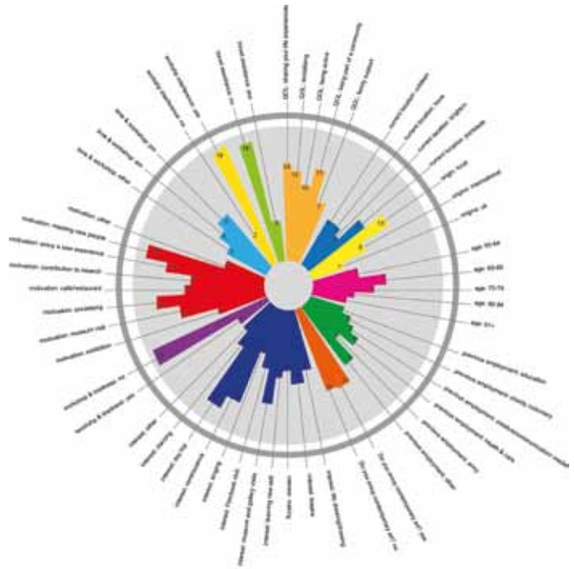


Fig. 4. Data collecting: feedback from WRVS and BME Elders participants.

The 'material bioscopy'.

During the 'material bioscopy' stage, I was required, as a digital artist, to start editing the data and materials. Bioscopy has been defined as a 'medical examination of a body to determine the presence or absence of life.' (Webster's New World College Dictionary 2010). In the context of *Rendezvous*, I have chosen this term 'material bioscopy' as the process of dissecting what material is 'alive' or 'dead'. What materials have traces of the original narrative? I am not discussing the value of the digital relic, but its index (Peirce 1955) once digitalised. In this context the index refers to a past experience that the object holds, for example the representation of a torn or burnt photograph that Joachim Schmid (Fontcuberta 2007) so often uses in his work, not only bringing aesthetics but also a human interaction with the object and its narrative – the index.

After a number of experiments in image and film editing software, it became clear that most of the digitally scanned relics were 'alive' with narratives (Fig. 5). The portrait or group photographs failed to relate to the original told memory, but instead demonstrated the attachment and ownership that some individuals had with their personal object (Fig. 6). Although informative, it could not have worked as a shared authorship.

The next part of the 'material bioscopy' was to create a dialogue between medium and narrated-representation. The digital relics still carry traces of a past life; each representation of the original deterioration is an index of its micro-narrative and time, leading my practice to experiment with how the pixel, the medium of the digital relic, could also be altered from its original order (Fig. 7). Consequently creating a visual glitch that would also refer to time and the digital texture as well as the digital fragility itself.

Pushing through the corruption (i.e. errors, glitch) of the digital image, allows to reveal the materiality of the digital. José Van Dijck discussed how 'memory is not mediated by media, but media and memory transform each other' (Van Dijck 2007: 21). However, to choose to represent memory through digital re-enactment, or as a digital archive, to use the digital as it is prescribed, still silences the true dialogue between medium and the represented object or narrative, as they simply conform. For example, when Frank Auerbach (Feaver 2009) painted a portrait, he selected his palette knives, the paint itself, though when he began painting, he did not allow the paint to simply sit and represent. He worked the medium, and in the process conveyed narrative, human intervention and a continuous dialogue between the represented and the medium. The same, I believe, can be applied to digital art practice.

To understand digital media as a creative medium, the artist must create a 'bioscopy' to discover where the resistance, parameters, and therefore life of the medium itself lie. In this process the original narrative and its authorship is transformed and transplanted by both the digital artist and the technology itself. Consequently creating a platform for *Rendezvous*' participants, audience and users to have a 'live' dialogue with the digital object, whilst shaping new perspectives through their simultaneous private and collective narratives.

The 'embodied experience'

The last stage is one of narration and experience. By now, I have edited the mediated and scanned relics as a collection of short experimental moving images, posted on Vimeo and network by QR (Quick Response Code) technology to a material object, located in the gallery space (Fig. 8).

In the 1970s Ernest Edmonds and Stroud Cornock defined a new dynamic 'art system' in response to computer-based-technology as 'the matrix'. The artist, the audience and the artefact are elements of the matrix, the dynamic, the exchange and interaction between these elements allows for meanings to be interpreted – the process becoming the medium itself (Muller & Edmonds 2006). *Rendezvous* includes an added element to its existing dynamic between the audience, the material relic, the digital relic, and my orchestrating of these elements; the element of participants sharing personal narratives and the element of location.

Rendezvous' matrix is one that invites the audience to experience the art work by selecting and placing a QR tagged object (a magic lantern slide) over a camera in an under-lit stand (Fig. 9), allowing the slide to reveal its content, a 2D representation of a relic initially shared by the members of both WRVS and BME Elders. Placing a single slide on the under-lit stand triggers an online moving image, which displays an abstract form of the original narrative offered during the 'ethnoscopy stage' (Fig. 10). The system allows for the material object to be connected to both a visual narrative and online communities, such as the Growing Older Audience's blog, my research blog, and Vimeo. The 'matrix'

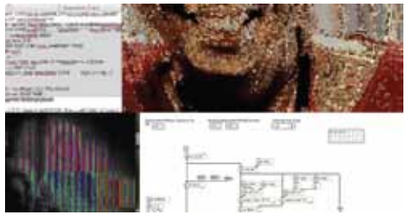


Fig. 5. 'Material bioscopy'. Selection of objects brought by the participants.
Fig. 6. WRVS & BME Elders participants sharing narratives around objects and relics.
Fig. 7 'Material bioscopy'. Data bending.

and medium therefore become the dialogue between the digital medium and the shared collective narrated selves (between participants, myself as the digital artist, relics and audience-user) within the art gallery space and the home environment.

The 'ethnoscopy', the 'material bioscopy' and the 'embodied experience' stages were not only central to *Rendezvous* as a digital art practice but also central in clarifying *Rendezvous* as a transitional location for collective remembering. However, in this context, questions of transformation of the digital relic and of narrated selves within cultural memory are raised. How does the digital art process mediate the self, and therefore the production of cultural identity, values and beliefs? How does it change the way we remember or experience our past and therefore our aspirations?

Before locating digital media art practice within cultural memory it is important to define what it is meant by cultural memory within practices related to *Rendezvous*.

Cultural memory

Cultural Memory is a field that invites multidisciplinary and interdisciplinary practice – from psychology to history, art and media, bringing various perceptions to how it may be defined, as each discipline has its own individual perception and objectives. Astrid Erll and Ansgard Nunning (2008) brought together some of the various definitions and extensions of definitions from history, philosophy and psychology and politics, clarifying that cultural memory is an umbrella term that can only be understood in conjunction with other fields. *Rendezvous* considers cultural memory within media studies, cultural studies and digital art practice. Each of these studies is a collaborative study, making any considered concept malleable. In this context, cultural memory has been considered within both Aleida Assmann's memory format (Goodin & Tilly 2006: 210-223) and Jan Assmann's (2011) interpretation of Halbwachs collective memory.

Fig. 8. 'Embodied experience'. *Rendezvous* installation at Fabrica, Brighton.
Fig. 9. Detail of *Rendezvous* installation, QR tagged 'magic lantern slide'.
Fig. 10. Detail of *Rendezvous* installation, glitch moving image.

Maurice Halbwachs, a French sociologist, raised the concept of collective remembering as a process of individual memory and how, through social engagement, it can be shared with two or more individuals, becoming collective memory (Halbwachs 1967: 36). This concept was further considered by Jan Assmann, a German Egyptologist (2011). He described collective memory as two distinct concepts: 'communicative memory' and 'cultural memory': 'communicative memory' comprises the narrated-self, shared on the day-to-day (Assmann 2011: 34) and limited to 3 generations of for example, 80-100 years; 'cultural memory' is a mediation of societal experiences and is culturally placed (Assmann 2011).

While cultural memory is not part of formal historical discourse, it is 'imbued with cultural meaning' (Sturken 1999: 178) within its process of mediation and the artefact or relic, allowing future generations to re-experience their cultural identity.

Aleida Assmann took Halbwachs' reflection on social memory in *Les Cadres Sociaux de la Mémoires* further by formatting the memory system in four categories: individual memories (the narrated-self on the day-to-day), social memories (the narrated in cultural/societal group), political memories (the focus on the group identity and political voice) and cultural memories (the focus on the individual within a cultural group).

However it is clear that these systems of categorisation are dependent on one another. Cultural memory cannot be without communicative memory, nor can cultural memory be without individual and social memories, hence to reflect on the idea of cultural memory, is to also reflect on the individual and the social experience.

For instance, within the context of *Rendezvous*, communicative memory, or individual and social memories, formed the foundation of the initial collective workshop activities where participants would share their individual narrative through a show-and-tell activity – each person would recall anecdotes, stories and collective memories (generational or locative). However, once the social activity ended, the visual and sound recordings collected and remembered, these micro-narrated selves would enter a stage of mediation and mediatisation within creative art practice. These would then be experienced by the general public and the various community groups, affirming the artworks position within cultural memory, therefore allowing a new experiential dialogue between self and society, and therefore cultural identity.

Cultural memory, according to Aleida Assmann (2006), is formed of mediated individual and/or social memories. This mediation takes the form of 'material representation' dependent on environments such as museums, monuments and art galleries where collective engagement is made possible. In this context, how does digital media art practice relate to cultural memory?

Dislocation & Third Memory

Rendezvous invites the narrated self to be explored from different perspectives, experiences and interactivities. Initially participants shared their stories through interacting with a relic; then, through the digital art installation work as a whole, and finally via the Internet, as a home-user. Online video delivery offers the possibility for the work to be re-experienced, however this can only be as a recall, not as a primary experience. Placing the interactive element within the limits of screen culture and familiarity (e.g. surfing the Internet), to transform the role of the active audience to a witness and user, limits the home-users self-investment and therefore experience. The interactive digital work acts as a form of mirror, where one can identify with what he or she is seeing, therefore contributing to identity production and cultural identity construction through digital narration.

I consider *Rendezvous* as a re-enactment, as a 'third-memory' or 'post-memory' depending on the ownership of the initial narrative. Pierre Huyghe produced *Third Memory* (2000), a re-enactment of an individual memory, experienced and re-experienced over time through mediatisation and cinema. 'Third-memory', in this case, refers to re-enacted memory based on the original experience and the experience of its screen re-enactment, while post-memory is the experience of 'passed-on' memory, only experienced through someone else's recall *and* over time. *Rendezvous* invites its audience and users to leave with the conceptual artefact of a 'third-memory' or post-memory, 'negotiating the relationship between self and society, between personal and cultural memory' (Van Dijck 2007: 21).

Conclusion

Interactive digital art practice offers an engaging perspective upon cultural memory. *Rendezvous*'s art matrix, referred to earlier as a process and medium, allows cultural memory to focus on individuals forming a community, and on single relics forming a collection of digital indexes and human interventions. With *Rendezvous*, digital art practice remembers to question the materiality of its mediums: the digital process, the digital artefact, digital selves. It also questions the transformed engagement of remembering a past through individual and collective re-enactment, consequently creating a personal or collective experiential dialogue between self and society.

An objective of art practice is to question our being in the world, so when Alex Potts discussed Donald Judd's work as an 'art concerned with […] being embedded in the network of relations between self and [physical] world and self and others' (Plate & Smelik 2009: 43), he highlights how the selves (the participants, the digital artist and the art work) mediate with the world (e.g. the gallery space, the Internet) and with the other (the audience/user), to then reveal that 'as such, his sense of place is also a sense of time and space' (ibid.).

Therefore to question location within digital art media practice is to question a continued progress of existence of the digital relic, of the many narratives that the digital artwork represents, but also to question a continued progress of survival and therefore loss and desire. Bassett, also discussing interactive art and questions of memory, adds to Cavarero's argument that 'narrative belongs to lived human existence not to post-mortem fame' (Cavarero 2000: 33) and adds 'narratability is not only how history interpreted a life, it is an ongoing relation of the self to the world' (Bassett 2007: 113). This, again allows us to consider how the past is an experience waiting to be re-experienced and re-shaped, making digital art practice the ideal, and even necessary, platform to live the experience of individual and collective remembering.

Radstone (2000: 9) argues that 'in the contemporary remembrance boom, memory is aligned with issues of subjectivity and representation, privileging invention and fabrication over authenticity and lived experience' (Plate & Smelik 2009: 16). Our aspirations (as a digital artist, audience or users) are not factual, they are what allow us to move towards the future. *Rendezvous* recalls narrated values and beliefs as a re-enactment of life, as a 'thirdmemory' or postmemory, hence 'rendering it possible for later generations to reconstruct their cultural identity.' (Rodriguez 2007).

Bibliography:

Armchair Critics (2012) 'Armchair Conversation Piece' *armchair critics*. http://armchaircrits.wordpress.com/ [Accessed 30 March 2012].

Assmann, J. (1992 trans. 2011) *Cultural Memory and Early Civilization: Writing, Remembrance and Political Imagination*. Cambridge: Cambridge University Press.

Bassett, C. (2007) *The Arc and the Machine: Narrative and the New Media*. Manchester: Manchester University Press.

Bioscopy – Definition of bioscopy (2012) *Bioscopy – Definition of bioscopy.* http://www.yourdictionary.com/bioscopy [Accessed 30 May 2012].

Black and Minority Ethnic Elders (2012) *BMECP Black and Minority Ethnic Community Partnership*. http://www.bmecp.org.uk. [Accessed 17 April 2012]. Black and Minority Ethnic Elders is part of the BMECP, Black and Minority Ethnic Community Partnership charity, based in Brighton.

Cavarero, A. (2000) *Relating Narratives: Storytelling and Selfhood, Warwick Studies in European Philosophy*. London: Edition Routledge.

Erll, A. & Nunning, A. (2008) *Cultural Memory Studies: An International and Interdisciplinary Handbook, Media and Cultural Memory/ Medien Und Kulturelle Erinne*rung. Berlin, New York: Walter de Gruyter.

Fabrica (2012) 'Growing an Older Audience'. http://www.growingfabrica.org.uk/history/. [Accessed 12 March 2012].

Feaver, W. (2009) *Frank Auerbach*. New York: Rizzoli International Publications.

Fontcuberta, J. (2007) *PHOTOWORKS 1982-2007*. Steidl, Photoworks UK, Tang Museum.

Foster, H. (2004) 'An Archival Impulse' *October*. Fall 2004, no. 110, pp. 3-22.

'Going to See Culture Together' (2012). http://squdio.co.uk/blog/ [Accessed 30 March 2012].

Goodin, R. E. & Tilly, C. (2006) *The Oxford Handbook of Contextual Political Analysis (Oxford Handbooks of Political Science)*. USA: Oxford University Press.

Halbwachs, M. (1967) *La mémoire collective*. Paris : Les Presses Universitaires de France.

Iversen, M. (2004) 'Readymade, Found Object, Photograph'. *Art Journal*, vol. 63. no. 2. pp. 44-57.

Janssen, S. & Chessa, A. & Murre, J (2005) 'The reminiscence bump in autobiographical memory: Effects of age, gender, education, and culture' in *Memory*. 13:6. pp. 658-668.

Muller, L. & Edmonds, E. (2006) Living Laboratories: Making and Curating Interactive Art, Siggraph.

Nicolabenge 'growinganolderaudience (2012) *nicolabenge 'growinganolderaudience*. http://growinganolderaudience.wordpress.com/author/nicolabenge/page/2/ [Accessed 30 March 2012].

Peirce, C. & Buchler, J. (2011). The Philosophical Writings of Peirce, New York: Dover.

Plate, L. & Smelik, A. (2009) *Technologies of Memory in the Arts*. Hampshire, New York: Palgrave Macmillan.

Proust, M. (1992) *A la recherche du temps perdu, tome 1 : Du côté de chez Swann*. Paris: Gallimard.

Puckett, J. & Rees, H. (1993) *Mechanisms of Everyday Cognition (The West Virginia University Conferences on Life- Span Developmental Psychology*. Psychology Press.

Radstone, S (2000) *Memory and Methodology*. Edition. Berg Publishers.

Rodriguez, J (2007) *Cultural Memory: Resistance, Faith, and Identity*. Edition. University of Texas Press.

Rubin, D. C. and Wetzler, S. E. & Nebes, R. D (1986) Autobiographical memory across the adult life span. Cambridge: Cambridge University Press.

Second Sight. A Multi Sensory Approach (2012) *A Multi Sensory Approach*. [ONLINE] Available at: http://amultisensoryapproach.blogspot.co.uk/. [Accessed 30 March 2012].

Special Drawing Event (2012) *smudging & scratching*. [ONLINE] Available at: http://smudgingandscratching.blogspot.co.uk/. [Accessed 30 March 2012].

Stern, B. [1998] (2004) *Representing Consumers: Voices, Views and Visions (Routledge Interpretive Marketing Research)*. Edition. Routledge.

Sturken, M (1999) The Image as Memorial: Personal Photographs in Cultural Memory,' *The Familial Gaze*, edited by Marianne Hirsch. Hanover, NH: University Press of New England

Van Dijck, J (2007) *Mediated Memories in the Digital Age (Cultural Memory in the Present)*. Edition. Stanford University Press.

WRVS (2012) WRVS [ONLINE] Available at: http://www.wrvs.org.uk. [Accessed 17 April 2012].

WHERE IS E-LIT IN RULINET?

Natalia Fedorova

Rulinet, Russian Literary Internet.

Almost two decades of Russian literary Internet (Rulinet) evoke observations about the directions it is taking and the communities shaping it. Runet (Russian language Internet) started as a literary phenomenon in the early 1990's (Gorny 2007) with Dmitry Manin's *Bout Rimes* and Roman Leibov's *ROMAN* (Novel), *Zhurnal.ru, Moshkov Library*. The initial reason for this was technical – a low bandwidth internet meant it was necessary to engage audiences through textual means. A secondary reason was the emergence of Runet at a particular point in Russian history (according to different sources, simultaneously, or following, the collapse of the USSR) and in a particular Russian cultural context of literaturecentrism. Traditionally, Russian literature embraced the realm of social critique and thus served the function of the public sphere, reduced significantly under regime's censorship. Digital freedom of speech led to the emergence of a 'samizdat' conception of Runet, as an alternative to the official 'print' establishment (Gorny 2006).

Historically, the Russian Internet followed the 'thick literary magazine' (such as *Novy Mir, Zvezda* or *Druzhba Narodov*) and video salon culture of the 1980s and early 1990s, at the time of 'perestroika' and 'glasnost'. The Internet in Russia began with *Glasnet* (Glasnost Network), a US-based non-commercial organization providing teachers, human rights activists, scholars, ecologists and other guarantors of the open society with access to the web. Since a lot of underground, unofficial and 'Western' writing was censored in the USSR this was a breath of fresh, unfiltered air.

Thus the metaphor of *samizdat*, a practice of 'unprofessional' publishing, using carbon paper and a typewriter, was projected onto an understanding of the Internet. However, grassroots and anarchic this may seem, samizdat had its own hierarchy and literary prizes. The Internet brought about an easy and cheap means of spreading such writing. Its openness and the lack of selective mechanisms generated a lot of criticism from the professional literary community during the late 1990's. A factor influencing this was that the pioneers of Internet publishing were computer scientists, often mistrusted in the humanities as unauthorised to handle literature.

Dmitry Kuzmin, founder of the Vavilon literary portal (Kuzmin 1997) and an apologist for 'professional literature', states that non-hierarchical independent space is 'a harmful utopia' (Kuzmin 2000). In the 1990s professional literary scholars such as Dmitry Kuzmin and Sergey Kostyrko were also infamous for their belief in a 'non-differential tonus' of net and paper literature, while critics and writers such as Genis and Alexandre Romadanov (Alexroma) insisted on the existence of 'neterature' as a specific phenomenon. The Kuzmin's critique is both grounded and not grounded at the same time. These literary contests on the Internet appeared five years after its introduction in Russia in 1990 (Gorny 2007) and well before its widespread use in 2000's. The oldest and the most influential of them was *Teneta*, organized by Leonid Delitsin (a geography major student) and Alexey Andreev (a math major student) in 1996. Both studied in the US at that time, with the aim to structure literary work published on the web.

Secondarily, the metaphor of the noosphere, the space for ideas, was also very influential in the course of the early development of Rulinet. Dan Dorfman states that an uncensored virtual reality has always been the dream of Russian literature. This utopian notion of the ideal virtual space is close to conceptions of sobornost (ecumenism) of Vladimir Soloviev (1853-1900), who was dreaming of an all-encompassing unity of humankind under the *aegis* of one church; this was supposed to evoke emancipation from a material world subject to the destructive effects of time and space. The cyberpunk ideal of transformation of matter into the energy of thought and spirit is reflected in the theories of Russian biologist and geologist Vladimir Vernadsky (1863-1945) who was developing the concept of a gradual transition from the material world (biosphere) to an ideal, nonmaterial sphere (noosphere), at the beginning of the twentieth century (Schmidt 2001).

Vladimir Vernadsky's and Vladimir Soloviev's theories and orientation on the written word, in the forums and guestbooks of the free discussion spaces in the early Rulinet, gave rise to a number of highly literal virtual characters, or 'virtuals' (Gorny 2007). Unlike the Western analogue of virtual personas, often subject to role-play, the properties of Russian virtuals can be best compared with literary characters. The first of these was the legendary *first pensioner internet surfer May Ivanovich Mukhin* (created by Roman Leibov). Since the Virtual Character was one of the Art-Teneta nomination categories, Leonid Delytsin carefully collected all the posts of the *virtual lover Lilia Frik* (an allusion to poet Vladimir Mayakovsky's life-long *femme fatale* lover Lilia Brik) in order to present her for the contest in this category (Gorny 2007). Virtuals also played the role of a writer's nickname, such as *Mary Shelly* by Alexey Andreev and Victor Stepnoy, prominent authors of the Web, a novel describing early Runet and its inhabitants, *Allergen the Cat*, poet and essayist, *Leonid Stomakarov* by Leonid Delitsin himself.

What is not Russian electronic literature?

It is not easy to find Russian electronic literature in the contemporary Runet.

As mentioned above, one of the first projects marking the beginning of Runet was *Moshkov Library*, where a collection of classical and contemporary literature is available for free. Commercial digital publishing portals like *Litres*, *Bookmate* and *Imobilka* struggle to sell literary works to a community where people are familiar with having free digital content and do not contribute to the creative potential of the computer as a medium.

Under the title of Netpoets (2002) there exists a rather classical, but not belonging to the official printed literature union, group of poets. Under the name of 'electronic literature' the portal Virtual Reading publishes traditional prose. Also, the popularity of Stihi.ru and a number of similar self-publishing platforms, illustrates that self-expression, or samizdat, remains popular in Rulinet. Such work is understood as not being innovative and experimental, but rather as in opposition to the official literary establishment, duplicating it in a new domain.

What is Russian electronic literature?

In Russia the spread of personal computers coincided with the collapse of the Soviet Union and spread of Internet technology. Thus the notion of electronic literature is oriented towards a notion of network literature, 'neterature', and discussion of the virtual space of the Internet.

The term 'electronic literature' itself wasn't brought into play in Russian discourse to designate a digitally born work of literary art for reading on the computer screen until 2011, when it was symbolicallly first used by Mikhail Vizel in his review of N. Katherine Hayles's book *Electronic Literature: New Horizons of the Literary*. Enrika Schmidt applies the term 'digital literature', opposed to 'digitized' (Schmidt 2006), which treats the computer as a type of archive. 'Neterature' or 'cyberature' (Riabov 2001) are used by the Net Literature portal community (Vizel 2011).

Leonid Tyraspolsky and Vladimir Novikov, in *Aesthetics of the Internet* (Tiraslolsky & Novikov 2001), and Henrike Schmidt in *Literal Immobility* (Schmidt 2006), stress the material quality of the digital media, allowing it to realise literary tropes. The essential qualities for a work to be considered a piece of neterature are summarized by Gennady Riabov, in *Net – or – rature?* (Riabov 2001), as:

1. Creative nature
2. Use of 'letters' [буковки] as the key means of expression (as in Gerdiaev's *Drama in the Forest* (Gerdiaev 2001)
3. Use of hyperlinks
4. Dynamic nature
5. Use of multimedia
6. Number of authors
7. Transparency of the authors
8. Author reader interaction.

Cyberature, part of the Net Literature portal, embraces the selection of Teneta award-winning works and continues to publish e-lit, although less vigorously. Since the Teneta archive is no longer available online, Cyberatura provides the best selection of Russian e-lit from 1998 to 2008. The genres represented include:

- hypertext, *Waste Land* (1999) by Julia Morozova, Shatters (2000) and Voyage X (2000) by Vladimir Tatarintsev;
- hyper media, *In the Subway (and Outside)* (2001) by Sergey Vlasov and Georgy Gerdiaev, *F.M.DostoevskyIDIOT* (2001) and *Starfall* (2000) by Alexroma; networked art, *Boutes Rimes* (1995) and *Garden of Forking Hokkus* (1997) by Dmitry Manin;
- flash poetry, *Drama in the Forest* (2001) and *The City* (2008) by Georgy Gerdiaev, *Signs* (2006) by Ivan Levenko, *Sonets* (2004) by Igor Loschilov and Georgy Gerdiaev;
- poetry generator, *Cyber Pushkin* (2002) by Sergeij Teterin and *scholarly essay generator Robot Datzuk* (1997);
- poetry shooter, *Sharp-set Angels* (2003) and *Poetry Puzzle* (2000) by Alexroma; PowerPoint poem, *The Till* (2003) by Maxim Borodin.

When did Russian electronic literature appear and what happened next?

The Teneta (Teneta 1994) literary contest marked the beginning of the Russian e-lit community. Apart from poetry, prose and translation, it included nominations in Hyperliterature, the creative arts, and games. Teneta positioned itself as a 'pure Internet contest'. The best texts, published first on the Internet, were to be nominated. This was intended to guarantee the quality of the literary works. Teneta was known for a wide spectrum of work, as exemplified by the variety of communities the nominators, such as Artemy Troitsky, Anton Nosik and Alexey Andreev, belonged to.

In 1997 Teneta merged with Art-Peterburg and became Art-Teneta, which allowed it to attract such celebrated writers as Boris Strugatsky, Alexandre Kushner, Alexandre Zhitnitsky, Victor Krivulin and Sergey Kuznetsov. However, respectable and established writers didn't tend to have basic computer skills and the web published works had to be printed out for them. As Petrov also points out, in Literary Contests in Russian Internet (Petrov 2002), Teneta had a flawed judging system. Since Teneta failed to attract funding and the judges were working in their free time it came to an end in 2002 with the optimistic justification 'due to the enormous amount of works'.

The years 2002-2004 can be characterised by the commercialisation of the web; this didn't lead to the development of innovative Teneta ideas. Computational experiments, like language generators, are used for utilitarian functions like congratulations and insult word generators or Poet's Helper, finding the necessary rhymes and rhythms, or as found in the Yandex Pushkin Poetry Generator (Pushkin Poetry Generator 2006), celebrating the birth date of the poet. *Cyber Pushkin* (Teterin 2002), by Sergeij Teterin, nominated for Teneta 2002, processed the poetry of various authors to produce rather unusual non-sense output.

Where is electronic literature now?

Currently, the Russian portal Net Literature and German Russian Cyberspace (Russian Cyberspace 2012) are the two main sources where electronic literature (cyberature) in Russian, and critical writing about it, can be found.

The development of Russian Interactive Fiction (IF) was delayed by the linguistic difficulties of adapting the parser's employed in such works. Currently, the IF community seems to be the most vibrant in Russian e-lit. It was in early 1998 when the first Russian Language menu-based interactive fiction platform Universal RipSoft Quest (URQ) was developed by Timofey Basanov (a.k.a. RipOs) and Viktor Koryanov for Choose Your Own Adventure (CYOA) games. Since Russian is an inflective language the design of parser-based platforms appeared to be a more challenging task. However, this was successfully undertaken by Andrey Grankin (Grankin 2002) who, after several failed attempts at translating Inform, finally designed RTADS. Rinform was developed during the years 2003-2005 by Dmitry Gayev (Gayev 2005). Eighteen IF contests have been more or less active since 2002. At the moment three of them are the most important: Golden Hamster (Golden Hamster 2009), an analogue of XYZZY Awards, Mini IF Competition, and QSP-Compo 2012: Mamonth Within (QSP 2012), annual QSP(Quest Soft Player, a menu-based platform developed by Valery Argunov) platform game competition.

Meanwhile, by 2004, the development of Russian media art led to mediashift and a number of festivals in Riga, Perm, Kransojarsk, Mosow and St-Petersburg have taken place over the last decade. Portals like Asia Nemchenok's blog Videopoezija (Nemchenok 2012), SELF-ID (SELF-ID 2012), and Videopoezija.ru (Videopoezija 2012) have also been established. There have also appeared a number of creative groups, like the Laboratory of Poetic Actionism (Laboratory of Poetic Actionism 2012) , Machine Libertine (Machine Libertine 2012), Zlystra and Pupstrip (Zlystra and Pupstrip 2012), amongst others.

Currently, two important e-lit communities can be located on the web: 'neterature' and IF. Since Teneta, the first Internet literature contest was closed, its inheritor Net Literature has not been as dynamic, while IF, on the contrary, started gaining authority since the millennium.

References:

Dorfman, D. (2000) 'Anti-Dmitry or Merging Realities' *Net Literature*. 17 May 2000. http://www.netslova.ru/dorfman/anti.htm [Accessed June 2012].

Gayev, D. (2005). 'IF in Russian' *FAQ*. 2005. http://vixterm.narod.ru/IFRusFAQ.htm [Accessed June 2012].

Gerdev, G. (2001) 'Drama in the Forest' *Net Literature*. 11 April 2001. http://www.netslova.ru/zherdev/drama.html [Accessed June 2012].

Gorny, E. (2006) *A Creative History of the Russian Internet*. PHD Thesis, Goldsmiths College, University of London.

Gorny, E. (2007) 'Chronicle of Russian Internet: 1990 – 1999' *Net Literature*. March 2007. http://www.netslova.ru/gorny/rulet [Accessed June 2012].

Gorny, E. (2007) 'Virtual Character as a Form of Creativity' *Net Literature*. 10 May 2007. http://www.netslova.ru/gorny/vl.html [Accessed June 2012].

Golden Hamster (2012) Main page. http://zh.ifiction.ru/ [Accessed June 2012].

Grankin, A. (2002) 'RTADS' 2002. http://rtads.org/proj_history.php [Accessed June 2012].

Laboratory of Poetic Actionism (2012) Main page. http://poetryactionism.wordpress.com/ [Accessed June 2012].

Kuzmin, D. (1998) 'Vavilon'. 30 September 1998. http://www.vavilon.ru/ [Accessed June 2012].

Kuzmin, D. (2000) 'Short Catechesis of Russian Literary Internet' *Net Literature* 17 February 2000. http://www.netslova.ru/teoriya/kuzm-inlit.html [Accessed June 2012].

Nemchenok, A. Blog. http://videopoesia.livejournal.com/. [Accessed June 2012].

Machine Libertine (2012) Manifesto. http://machinelibertine.wordpress.com/ [Accessed June 2012].

Petrov, I. (2002) 'Contests in Russian Literary'. 10 April 2002. http://www.netslova.ru/petrov/konkurs.html. [Accessed June 2012].

Pushkin Poetry Generator (2006) 06 June 2006. http://referats.yandex.ru/pushkin/ [Accessed June 2012].

QSP-Compo (2012) 'Mamonth Within'. 2012. http://qsp.su/ [Accessed June 2012].

Riabov, G. (2001) 'Net – or – rature?' *Net Literature* 4 June 2001. http://www.netslova.ru/ryabov/setetura.html [Accessed June 2012].

Russian Cyberspace (2012) Main Page. http://www.ruhr-uni-bochum.de/russcyb/project/en/project.htm [Accessed June 2012].

SELF-ID (2012) Main Page. http://self-id.com [Accessed June 2012].

Schmidt, H. (2001) 'Bodyless Joy: Problem of body, reality, and language in Russian literary Internet' *Net Literature*. http://www.netslova.ru/schmidt/radosti.html [Accessed June 2012].

Teneta (1994) http://teneta.rinet.ru/index.html [Accessed June 2012].

Teterin, S. (2002) 'Cyber Pushkin'. http://www.teterin.ru/pushkin/index_e.htm, [Accessed June 2012].

Tyraspolsky, L., & Novikov, V. (2001) 'Aethsetics of the Internet' *Net Literature*. http://www.netslova.ru/tiraspolsky/estetika.html [Accessed June 2012].

Troepolskaja, E. (2012). Blog. http://krakadil1922.livejournal.com/ [Accessed June 2012].

Videopoezija (2012) Main page. http://videopojezija.ru/ [Accessed June 2012].

Vizel, M. (2011). 'Electronic Literature: The Unknown Unknown'. Review of N. Katherine Hayles's book *Electronic Literature: New Horizons of the Literary*.' *New Literary Observer*. no. 110 (2011): 110.

Zlystra & Pupstrip (2012) . Main Page. http://zlypups.com/co

THINKING IN NETWORKS: WESTERN/NON-WESTERN INTERACTION

Yvonne Spielmann

The article discusses artists' practices that in aesthetical-technical ways intervene into computer networked environments. I am interested in Japanese media artists who, in interactive installations, rethink the use of technology that we encounter in the industrially-culturally compressed spaces of the metropoles, like Tokyo. These technologically saturated spaces have created super-density as a new cultural form of the present. The focus of my discussion is on artists' interventions in networks that in different ways make us aware of the possibilities for approaching and reflecting upon our behaviour in such media-cultural and ubiquitous mediascapes.

I will briefly outline the interwoven systems of communication, transport and information as they represent and remediate daily social interaction in Japan. I use the example of the Japanese art-architectural group 'doubleNegatives Architecture' to give an example of a creative response that considers networks as a different social model. Further, the installation works by Seiko Mikami are considered as a response to the quotidian experience of high density living and consequent lack of individual space. In her interactive installations we are targeted by programmed sensors and robotic devices, which invite us to engage in close encounter with the measuring and moving systems of the installation. In this human-machine-interrelationship, we will also achieve a sense of each other via a technological environment that becomes a perceptual space that makes us aware of social interrelationships.

Mediascapes in Japan

Media development in Japan initially derives from a close working context between technical-scientific research laboratories, the computer industry, education and research in the disciplines of information science, design, art and architecture. From an external perspective, it can be regarded as pioneering new connections between digital media art, national research laboratories and the computer industry. By international comparison, the engagement with computer media in Japan is characterized by the collaboration of developers, engineers, and artists, whereby media artists often have training in computer science and information theory.

Innovative experiments with interactive-virtual applications which use, among other things, components with LEDs, robots, GPS, digital video, sensors and command systems from the commercial-industrial and military sectors, originate in a Japanese cultural space, the everyday life of which is intensely permeated by these sorts of technologies. The above-named components are indeed, in themselves, present in the media sector around the world. However, Japan plays a leading role so far as the density of implementing these technologies in public and private space is concerned. In Japan, engineering and computer science have created a new way of dealing with technology in the everyday world. Overall, we can recognise a medial setting, which is strongly determined by the use of technology in public life. This ranges from life-size screens for video projecting animation, music, and advertising clips, with competing sound levels and an intensive network of digital signs with acoustic signals in public space, to private and muted use of personally configured mobile technologies employed for computer games, the exchange of emails and internet communication on the street, as well as in traffic and transport systems. Precisely for that reason, the use of cell phones is felt to be disturbing in the constricted spaces of the underground and in the regional and Shinkansen high-speed trains and accordingly avoided. Communication is mostly via silent texting.

The particular nature of such connections in Japan occur in the narrowest of spaces and in high concentration. The super-density of communications, transport and information in the space of the metropoles, like Tokyo, creates the limits of the temporal-spatial compression, creating a new cultural model. Tokyo's super-density is an example of this cultural form:

> What seems at first as an extreme version of a city, successively reveals itself as the opposite, as not-city. In the end, there is the realization that, if super-density is to function at all, then only if it throws off anything supposedly urban, becoming a pure state of intensity, as we otherwise only know it from art, music, media.' (Koelbl 2000: 56).

Even if urban public space in shopping centers and transport systems is mostly an expression of an enterprise culture, saturated with densely packed vertical arrays of audiovisual information on LED screens ranged above and alongside each other, this super-dense electronic cultural space does allow other aspects of a culturally located understanding of aesthetics. This enterprise culture has similarly established itself in other Asian metropoles and at the same times allows an expression of the perceptual-bodily encounter with the real of the technology and its networks.

In this respect, the installation works of Seiko Mikami respond to the quotidian experience of high density living and the consequent lack of individual space. In her interactive installation *Desire of Codes* we are targeted by programmed sensors and robotic devices, which invite us to engage in a close encounter with the measuring and moving systems of the installation. In this human-machine-interrelationship, which is set out for multiple participants, we also achieve a sense of each other via the technology. The technological environment becomes a perceptual space, which instigates awareness and self-awareness, wherein individual position and behaviour is experienced in response to digital codes which are responsive to us.

Another example of creative invention and intervention in the technological environment is the work of Euro-Japanese art and architecture group doubleNegatives Architecture. They use automatic and self-modifying systems as a model to engage us, the participants, to closely investigate and rethink how handy technologies and complex military and political surveillance and control structures interact. This is evident, in particular, when the art group investigates self-organising mesh network devices that were initially designed for warfare. I propose to regard the open work structure of the architecture group as a way to initiate thinking about the purpose and mechanisms of connectedness and connectivity that have developed distinctly in Western and Asian cultures.

Western/Asian connections

The presence of technically elaborate works and applications from Japan has become noticeable at media and computer festivals around the globe, which have arisen parallel to technological development. But even when Japanese examples do

attract notice in wide-ranging discussions about contemporary media forms, and on the aesthetic potential of new technologies, acquaintance with them in Western dominated discourses, around the general media debate, is restricted to singular positions, and there is little consideration of the cultural context from which they arise. That is because a generalized Western perspective applies in most cases, and it is one that is almost taken for granted and receives scarcely any justification and even less argumentation to locate it in relation to global developments in media. Here, a further index of the blind spot in the discourse appears from the technological perspective. Its rationale lies in the industrially oriented developments of tools and applications, where the Japanese were also present, with computer-graphic innovations and examples from computer art. However, this state-of-affairs reveals an imbalance between the presence and assessments of the discourse of aesthetic-creative praxis with digital media in Japan.

In this situation, which is characterised by an imbalance between Western and Eastern discourses and practices, it has become difficult to determine the position of critical discourse in the arts and humanities. Notably, it is difficult to define a position and its locational relevance in intervening art practices. From where do they operate and to whom do they speak in a global network? In light of these reflections, how can we argue aesthetically for interventions into complex and diverse media realities at all?

In providing an answer, cultural critic Homi K. Bhabha, when discussing questions about *The Location of Culture* (Bhabha 1994), has pointed out that critical engagement beyond dualisms and polarities keeps cultural dialogue alive and inhabits the in-between zones with dynamic interaction and open-ended processes. The artists' intervention is seen as the instrument of interrupting the apparently seamless and fluid stream of performance of present media cultures. By means of fostering multipurpose views in a variety of combinations, a lively participation in and with the 'smart', 'ambient' and 'intelligent' environment can be experienced as a new form of social behavior. This also affects how we locate our present position, in temporal and spatial terms, to overall trans-local, transcultural and transnational systems. It seems local relationships are precious: cultural context matters in terms of its roots (where things originate from) and, by the same token, cultural contexts need to be understood as travelling concepts so that their routes (where things travel to) are of equal importance; to reframe James Clifford's (1997) observation that culturally determined media concepts, that underlie practices, traditions and aesthetic expressions, do exist in travelling relationships where things are exchanged in the encounter between internal practices and external influences. In this direction, the spatial relations of locational positions and differences are important factors in understanding connectedness in, with and through the overall technological environment that is reshaping social practices.

Further to the discussion of Japanese media arts, it may be worthwhile to remember that the idea of networking is rooted in an Asian thinking that does not, in philosophical terms, rely on subject-object relations, dualisms and interrelationships that are of Western origin. A specific kind of temporal-spatial juxtaposition and connectedness unfold as a genuinely permeable quality that in Asian cultures promotes a *'*thinking in networks*'*, rather than thinking in dialogues. When viewed together, creative and cultural practices in the Asia-Pacific sphere manifest a seminal understanding of interconnectedness that characterises a cultural specificity and is highlighted in the use of media technology: 'The Far East thinks in networks. ... The Far East has an almost natural connection to technical networking' (Han 2005). Given that the dynamics of contact do manifest themselves in the way medial and cultural crossings can be seen to travel and pervade each other, it seems appropriate to discuss this dimension of connectedness in respect of cultural specificities (roots) and their transcultural qualities (routes).

The notion of network thinking and related circular structures indicate a cultural form that is more associated with Eastern thinking and differs from the Western cultural forms of polarities. In view of the task to identify aesthetic means of intervention it is, therefore, worthwhile to look more carefully at the cultural components, wherein specific artistic proposals are made. It is not to say that the cultural form, as such, will be highlighted or even play an articulated role in the practices. Nevertheless, it will be an influential element that forms the surrounding and rootedness of intellectual and aesthetic conceptual thinking and it cannot escape a specific context. Creative intervention cannot be inventive in a neutral, abstract space. It needs to express relations, differences and tensions to an existing situation. Following, it may not come as a surprise when doubleNegatives Architecture, the collaborative artistic-architectural group that spans Europe and Japan, is especially interested in revising questions of subject positions; positions that connect to the centrality of a Western -centric perspective. These structuring principles, in a differing spatial setting, are remodeled and construct novel network options that create another model of decentralised connectivity.

The media artist, Seiko Mikami and the architect Sota Ichikawa, in their collaborative interactive-perceptual installation *Gravicells* (Yamaguchi Center for Arts and Media 2004) similarly address space when they go beyond commercial media products, being concerned with integrating our own subjective experience into a field of interaction that uses dialogue as the operational mode. This is achieved by employing environmental data, captured via GPS from the physical world, and relating this to our immediate perception of our own bodies. Participants, viewers and users make their own subjective-personal approaches to the interfaces and to other people present in the same 'field'.

Fig. 1. Seiko Mikami and Sota Ichikawa 2004. *Gravicells. Gravity and Resistance*, Yamaguchi: Yamaguchi Center for Arts and Media.

The subjective interaction of ourselves with other selves in a defined field leads to the distortion and deformation of objective GPS positional data. Deviations from the spatial coordinates express an almost personal sense of gravity (weight, movement and speed) in the form of concentric circles that change and move in dialogue with similar information from other participants. The floor consists of cell-like grids with fixed sensors built in to detect the changes of position, weight and speed of visitors. The new space serves as a dialogic model that expresses the need

for one's own space and also the anxiety of getting too close to others, something that reflects the quotidian experience of narrowness and density in public spaces, the metro and commuter trains in Japan. The experience, as such, is in fact not a culturally specific one but certainly does correlate inter-subjective values derived from a widely shared experience of lack of space in modern Japan and translates people's responses to the high density of space into a new media form.

Artists creating networks

Artistic intervention into social and cultural relationships that belong to our networked societes, to borrow Manuel Castells' (Castells 1996) term in the broader understanding of art within global politics, needs to take into account the media and cultural aspects of thinking in networks. To explore this further, I refer to the virtual architecture project *Corpora in Si(gh)te* (2007-2009) of the collaborative artistic-architectural group doubleNegatives Architecture (Sota Ichikawa, Max Rheiner, Akos Maroy, Kaoru Kobata, Satoru Higa, Hajime Narakuwa). This group is especially interested in questions of subject positions; positions that connect to the centrality of a Western-centric perspective. These structuring principles, in a differing spatial setting, are seen to be remediated and construct novel network options. The present architectural model suggests cross directions and networking practices that are relevant to the larger topic of intervention and ideas of connectivity, from scientific models to real spaces, in different locations and different cultural contexts. Set against the background of a dominant centrality of vision and surveillance (echoing the visual regime of modernity of Martin Jay (Jay 1993)), the intervening concept manifests in decentralisation and the building of another vision of mobile connectedness in situations of augmented reality.

In the installation the group investigates the use of networks for surveillance and military purposes and, for example, uses smart dust[1] technology and augmented reality, as introduced as ubiquitous devices in the two Gulf wars. In this respect, we can appreciate the critical approach of artistic intervention that explores invisible and mostly unnoticed computing operations. Therein, I wish to stress, lies an alternative aesthetic approach towards the built environment (architecture) and dominant visual regimes (predominantly linear perspective). In the installation of *Corpora In Si(gh)te* these parameters seem to be rather fluid and changeable. This raises questions of power and control: what is potentially responsible for reassembling the parameters? Can it be anyone and does the system need us? Consequently, the work poses the critical question of to how to organise communicative structures in a living environment where real space expands into mediascapes and changeability is formless, frameless and fluid.

The group's philosophy is to use data input from nature (such as wind, temperature, light and noise) and to employ military technology to build living architectural environments with intelligent sensors. *In Corpora in Si(gh)te*, the concept is to decompose the parts and materials of real buildings and reassemble them as an autonomous structure with varying and multiple viewpoints that are called 'super-eyes'. The aesthetic experiment results from mixing existing devices and building one's own structure. Superimposed architectural models are built from data measuring brightness, wind direction and speed, temperature, humidity and sound. The three dimensional structure that is generated is constantly changing, demonstrating how the flexible, constantly recreated corpora which is constructed from the collected and connected data of multiple viewpoints, occupies and dominates the surrounding public space. The superstructure interacts with the surrounding environment and also redesigns itself. It purposefully uses the technology of a mesh network and employs smart dust tools, deriving from military technology, with the goal of establishing decentered networks. What is demonstrated here are processes of building networks by restructuring connections from scratch, in all possible directions.

In Corpora, another mesh network will be realised in connection to a real time environment, with behaviour like an organic structure or nervous system. This model of networking realises possible forms of virtual architecture that grow like an organism and are not stable, unlike a concrete entity. In line with the concept of decentered networks the 'super-eyes' are self-generating, self -assembling structures that stress multiple connections because they exist in polar coordinates, not within Cartesian parameters. The multi-perspectival model departs from the linear perspective that is incorporated into most computer graphics systems. Herein, a change of perspective that stresses the optionality of using another representational system goes hand in hand with interaction with the surrounding environment. As a result, the project *Corpora in Si(gh)te*, which was presented at the Yamaguchi Center for Arts and Media, Venice Architecture Biennale, Ars Electronica Center and Hungarian Cultural Institute in Berlin, creates, each time, an unique ambient structure that disassembles the underlying smart technologies of military surveillance operations using sensors and wireless network functions. The aim is to demonstrate how we may change the function of, and challenge the ways in which we perceive and behave, in relation to disturbing, decentralised, unstable, constantly reassembling environments.

Fig. 2. Double Negative Architecture (Sota Ichikawa, Max Rheiner, Akos Maroy, Kaoru Kobata, Satoru Higa, Hajime Narakuwa). 2007-2009. *Corpora in Si(gh)te*, Japan/Hungary/Switzerland, virtual architecture project.

Another example, Seiko Mikami's large-scale three part spatial installation *Desire of Codes* (Yamaguchi Center for Arts and Media 2010, also exhibited at InterCommunicationCenter, Tokyo, 2011), addresses our relationship to the digital. It poses the question of what sort of 'inherent behaviour' computer codes might have, particularly when their capacity to measure and move takes on an organic character.

On the wall of the installation space Mikami mounts ninety devices that are equipped with search arms that have small LED pointers, cameras and sensors to detect the movement and sound of visitors when they approach the wall. The whole structure is targeting us, as if the technical apparatus and humans were different species entering into a dialogue with each other. As the lights and cameras follow the visitors' movements the devices, which are driven by audible motors, move their arms, *'*searching for*'* individual visitors like buzzing swarms of mosquitoes. In the process, their light-intensity varies in response to the activity of the user/visitor. Various real-time measurements are combined to create the responsive effect: movement is captured by light and ultrasound sensors and body temperature by infrared sensors.

Of particular interest here is how the use of the sensors diverges from the norm, as Mikami's self-built device is employed to measure data distinct to what was anticipated with the original purpose of the parts. For example, the sound-sensor serves to estimate distance. Each of the combined sensors and the cameras capture and measure independently, but they are networked together and attuned to each other as a form of 'group behaviour.' The audience for this 'industrial invention' not only interacts but, because of the extremely minaturised interfaces, can also experience the similarity between the behaviour (orientation in space, movement, response) of themselves and the machine. Because the devices are similar in size to toys, they appear harmless and attractive, not like control and surveillance apparatus.

Of note are the cultural aspects of referencing miniaturised computers, electronic toys and gadgets, which have spread like insects through the private and public sectors in Japan and South-East Asia. In her work, Mikami makes us aware of a close and personal relationship between human perception in general and individual senses and how they are affected. She draws our awareness to the humanoid behavior of increasingly small and smart robots and machine devices that are equipped with sensory instruments to detect us, target our behaviour and follow us. It is precisely this interface, built by Mikami herself without using standardised mechanisms, which evokes the experience of in-between-ness and makes us aware of our modes of perception in relation to surroundings that are machine driven and operated by a chain of codes.

Mikami, in the other two parts of the installation, further explores her view of the desire of codes, seen as a chain of behavior and responses corresponding to social behavior. Once we move away from the *Wriggling Wall* with its ninety units targeting at us, we find ourselves surrounded and targeted by six huge, over-sized robot arms that hang from the ceiling and reach into the space. The robot arms seek to express the desire of the code to follow and record the movements of visitors. The arms are equipped with cameras and projectors and simultaneously project the recorded footage onto the floor where we move. In the third part of the installation, *Compound Eye*, Mikami further focuses the anthropocentric effect of the miniature mechanical arms of the *Wriggling Wall*, with their LED's trained on us like searchlights.

> If you enter this white room ninety moving units of structures with built-in small sensitive cameras (0.0003lux) are placed across a 15m long white wall. Each device senses with insect-like wriggling movements the positions and movements of visitors, and turns toward detected persons in order to observe their actions. Round-shaped screen (in sixty-one hexagonal parts), that looks like an insect's compound eye, is installed in the back of the exhibition space. Visual data transmitted from each camera, along with footage recorded by surveillance cameras at various places around the world, are stored in a central database and ultimately projected in complex images and sounds that are mixing elements of past and present onto the screen. This compound eye-screen and the room's sound system express a new reality in which fragmentary aspects of space and time are recombined, while the visitor's position as a subject of expression and surveillance at once indicates the new appearance of human corporeality and desire. (Mikami 2010)

In the image-structure, imitating an insect's eye, current and past recordings of viewers can interfere, via computer programs, with data from internet search engines, which have access, in real time and permanently, to surveillance cameras from places all over the world. The model of the hexagon here becomes a permeable interface of global surveillance: it makes us aware of how personal experience is caught up in a worldwide data transfer.

Fig. 3. Seiko Mikami 2010 *Desire of Codes*, Yamaguchi: Yamaguchi Center for Arts and Media.

The philosophy of the installation is testing our experience of the behaviour of machines, as they are driven by codes. We are also invited to think about the desire of the code to randomly grasp and process data from anywhere at any time and *'*produce*'* endless chains of information input and output. The installation demonstrates its own structural components, such as repetition in the stream of data, and thereby makes us aware of our own desire to create and produce something and at the same time show our limits to influence and actually control the machine processes with which we interact. This interplay, in an in-between area, reacts like a circulation of perception. In it, participants experience the mechanism of permanent surveillance, as it is implemented in our technology and determines life in intensely structured cultures, like Japan. Here, any action is immediately the object of surveillance and triggers an endless, incessant search for input-data.

As these examples demonstrate, when we wish to discuss artistic -creative positions in computational development, it is important to mark the specific context of discourse and critique through the use of alternative models.

Notes

1. See http://robotics.eecs.berkeley.edu/~pister/SmartDust/

References:

Bhabha, H. K. (1994) *The Location of Culture*. London and New York: Routledge.

Castells, M. (1996) *The Rise of the Network Society*. Oxford: Blackwell.

Clifford, J. (1997) *Routes. Travel and Translation in the Late Twentieth Century* Cambridge, MA: Harvard University Press.

Han, B.-C. (2005) *Hyperkulturalität. Kultur und Globalisierung* Berlin: Merve.

Jay, M. (1993) D*owncast Eyes: The Denigration of Vision in Twentieth-Century French Thought*. Berkeley: University of California Press.

Koelbl, W. (2000) *Tokyo Superdichte*. Klagenfurt and Vienna: Ritter.

Mikami, S. (2010) *Desire of Codes*, unpublished manuscript.

Spielmann, Y. (2012) *Hybrid Culture*. Cambridge, Mass: MIT Press.

OUT OF PLACE: DIGITAL IN-GROUPING

Donna Leishman

Abstract

Since the maturation of the mobile network and a pervasive immersion into social media, the concept of community has been irrevocably dislocated from traditional geographical interactions. Establishing what adequately characterises born or predominately digital groupings is being investigated and discussed in academic, public and civic arenas[1] . Both the positive (Fig. 1.) and negative positions (Fig. 2.) have been voiced. Our 'always on', always-connected' status (Antonelli 2008) has created a close and some would argue dependent psychological relationship with our technologies (Charles 2011). If we consider that these technologies *have* significantly changed our practical reality, a reality where human experience and technical artifact have, for many, become inseparable, and that we now live within a 'life mix' (Turkle 2012) or pressured 'cycle of responsiveness' (Perlow 2008) then traditional concepts of how community is enacted using (deleterious or not) technologies merits review. This paper will look specifically at the heavy-user Flash developer/designer community and employ Social Identity Theory (SIT) (Turner & Tajfel 1979) as a means to interrogate how far technology has bypassed or developed established SIT concepts such as community, categorisation and identity.

Context

Predating more recent discussions around the negative or hidden effects of technology (Greenfield 2009) was an utopian ideology. Early digital culture (1993-2001) was driven by native Net communities who relished the freedom to work and communicate in a non-hierarchical digital space, where open-source sharing and virtual relationships gave respite from offline notions of ownership, materiality and physical identity. This early period was followed by the emergence of a larger browsing audience, who helped establish what has now been termed Web 1.0. Web 1.0 moved towards Web 2.0 (around 2004, onwards), which saw content providers and user groups evolve into more participatory 'prosumer' (McFedrie 2002), co-authorship and early crowd sourced enterprises (such as Threadless.org). Within Web 2.0 a confident commercial market and the expansion of the Social Network framed a decentralised culture. The current pervasive nature of mobile and networked technologies suggests we are entering a Web 3.0 and has enabled many to work and communicate with people in 'different time zones, on screens of different resolutions' (Antonelli 2008: 15-16) in both personal and professional dimensions (Naughton 2012). The initial techno-utopian ethos remains – indeed, 'networking' and or 'connectivity' are often presented as irrefutable contemporary virtues, albeit an amalgam of philosophical and theoretical origins with an unabashed commercial strategy.

Current key positives tend to be organised around the notions of:

1. Access: Since Web1.0 we have been given greater access to a better-delineated world, where any content can be found, giving rise to the idea of both a knowledge economy and *more* democratic access to information.

2. Connection: That technology can foster better connections (faster, stronger) with individuals and groups.

3. Sharing: Arguably the most ubiquitous and tangible addition is the ability to connect and share via the 'broadcasting' of personal details, stimuli, and observations facilitated by commercial companies such as YouTube, Twitter and Facebook. User-generated content implies a more active, liberal, discursive culture.

4. Ease: where smart devices deliver pervasive computing to make managing responsibilities and relationships less difficult and time consuming.

5. Creativity: An active discursive culture suggests new thinking and innovation can take place – e.g. that technology enables the 'wisdom of the crowd' in crowd-sourcing, as a problem solving tool.

6. Freedom: an idea located within the original net community's liberal ideology, where users can conceive of any question, urge or desire and act without restrictions.

All of the above positives can be reviewed from a counter negative position:

Fig. 1. Nokia's more 'youthful' strategic direction (October 2011) for their *Lumia* phone based on 'co-creation', with consumers being invited to collaborate with the company's marketing. Image source: MarketingWeek.com O'Reilly (2012)

Fig. 2. 'The Social Media Venn Diagram' T-shirt Design from www.despair.com

1. Access: Rather than the notion that we have been given greater access to a better-delineated world, we are in an era where there is a lack of information quality. What we have now is the illusion of truth and a crisis of authentic and or verifiable knowledge; Wikipedia and Google do not offer users truth or fact.

2. Connection: that the cycle of connectivity – the expectation to 'always be on' – is creating anxiety and dependency in users (Turel, Serenko & Bontis 2011). Turkle's (2011)

hypothesis is that technology has introduced mechanisms that have created a relentless connectivity, a connectivity that decreases our time for uninterrupted thought, and as such interferes with concepts of both community and identity. Wajcman (2010) suggests that constant connectivity results in lower work efficiency.

3. Sharing: Personal broadcasting has not improved the quality of discussion in society, rather it promotes the sharing of vacuous personal details and a covert form of affective labor as a new type of peer-to-peer-marketing (Martens 2011). The volume of unproductive sharing is contributing to a sense of a digital deluge and disorientation.

4. Ease: Smart devices make physically present the requirement to be immediately responsive to those connecting to us, in which depth of reflection or communication is eroded.

5. Creativity: Counter to creating an active discursive culture, privacy, identity, copyright and memorisation are obsolete notions – e.g. that the 'Internet has already integrated itself into the core processes of human mental activity beyond simplifying communication, acting as a gigantic external hard drive for the brain' (Pushkin 2011).

6. Freedom: with extended personal choice and pseudonymity has also come the loosening of social responsibility, an acceptance of hacktivism, piracy and a normalizing of destructive bullying behaviours such as 'trolling'.

Another major negative concept is the fear of 'heavy-user' groups who are hard to monitor in the current cacophony of interactions. That invisibility of connections is a problem. Any private or uncharted community can easily be presented as something to be fearful of; indeed we regularly hear popular press reports of 'loners' deeply involved with technology – these loners are perceived as more dangerous due to their technical prowess. Consider the Blackberry facilitated English riots in the summer of 2011 and the British Prime Minister's statement that these were evidence of a 'slow motion moral collapse' (Cameron 2010). A clear message to the press was that morality and mobile and social networks were potentially at odds with each other. Parental anxiety around new communication strategies has lead to increased pressure from the American Medical Association (AMA) for the American Psychiatric Association (APA) to include internet addiction, video game addiction, e-mail/text messaging along with sexual preoccupations in the upcoming 2013 Diagnostic and Statistical Manual of Mental Disorders (DSM-V), the standard diagnostic text used by psychiatrists worldwide.

Expectations of social responsibility (personal and corporate) are being tested in this digitally mediated society. Most born digital users have a clear disconnect, where their responsible *More Knowledgeable Other*[3] have not corrected online behaviours as established in public and civic spheres. Rather, their experience is challengingly individualistic, private and plural, where they can connect to multiple peer groups and communities of their own choosing with little or no regulation or sanction. The changed semiotics of context can be seen in the debate that ensued around appropriate contextualisation after Paul Chambers was convicted for his 'tongue-in-cheek' tweet about blowing up Robin Hood Airport in January 2010. The presiding judge understood that 'Any *ordinary person*' would interpret the tweet as alarming (Booth 2004). The notion of ordinary is now in itself a fraught concept. What is ordinary social insight within the network? In more domestic contexts, parents are often presented as bewildered or shocked when faced with acts of trolling. Statements such as 'the Internet should be able to stop them' (Rayment 2012), whilst a clear plea driven by anguish at online bullying, clarifies the gulf of perception between what the Internet is and control in digital contexts.

Social Identity Theory

Within social identity theory John Turner and Henri Tajfel (1979) discussed how vital being a member within a social group is in developing a concept of self and belonging in the world. A key contribution to the debate within conventional psychology, which was still in a deep analysis of 'individuation ' at the time, was the central hypothesis that group members of an *in-group* will seek to find negative aspects of an *out-group*. This process of definition and categorisation is used to enhance self-image, esteem and create a framework for existence.

Tajfel's work within his *Minimal Group* studies (Tajfel 1981) demonstrated that merely categorizing people into in-groups (us) and out-groups (them), without regard to any cultural, religious or racial frameworks, was sufficient to create intergroup discrimination. Whilst the original experiment was imperfect Tajfel highlighted how slight the conditions need to be to create the potential for inter-group discrimination, and indeed argued how intrinsic our group and social categorisation are to the idea of 'self'. Tajfel's *Minimal Group* studies become interesting in our contemporary context if one considers how our current disorientating freedom of choice, combined with a lack of verifiable facts, creates a similar erasure of frameworks and conditions.

One of the key changes in social identity might be related to the Internet's unique ability to normalise, uniting people, irrespective of geographical location, through Web tools such as forums, blogs and email groups. As discussed previously, networking and connectivity have been given significant cultural value, as has the positive value of accessing information. The idea of more autonomous self-selection and access to specific interest groups suggests a move towards finding *your own* rather than a culturally driven in-group. This requirement returns us to the issue of conceptualising what you want when faced with limitless options.

Characterisation

Another challenge for digitally mediated social identity is visibility and trustworthiness. Within social identity theory, psychological salience is important for social categorisation. To affect behaviour it must be salient or distinguishable – this process is in addition to a preference for clear frameworks. Developed by Oakes (1987) from work by Bruner (1956), the principle states that key mental filters look for accessibility and fit to generate salience. People normally strive to use self-evident framework categorisations (e.g. age, gender, race) that in their context are valued *and* are (ideally) self-evident and perceptually salient. Interacting frequently with remote individuals has become commonplace, accessibility has increased dramatically but perception is less stable. It is well established that virtual identity can be orchestrated between a conscious misrepresentation or a more truthful representation (Turkle 1995, Holmes 1997). The lack of cognitive time or structures to perceive makes the process of comparative fit difficult and as such pre-existing stereotypical beliefs could become more influential within characterisation (especially given the long standing and fixed nature of offline assumptions).

The Flash Community

The Macromedia Flash Community (FC) provides an interesting case study to explore the formation of digital in/out groupings, as this group have always been a heavy-user group that generated characterisations and was deeply engaged with technology, both as a communication method and an expression of identity. The FC straddle both the deleterious (heavy use) and virtuous (independent, creative, connected) aspects of digital media.

In 1996, during the early formative years of the Internet, the computer software Macromedia Flash was introduced (Adobe took it over in 2005). As a multimedia technology it was initially developed to allow interactivity and animation to stream over limited 56k 'dial-up' Internet connections via its low-band vector based (opposed to hi-band Bitmap) drawing and animation toolbox. As a secondary feature Flash contained its own simple programming language, Actionscript. Four years later, at the turn of the millennium and undirected by Macromedia, the FC had moved from a nascent group of individuals into a community who were routinely living and connecting with different contexts over multiple time zones. Most members were resolutely working within the Dotcom bubble as programmers and web-designers – a period colored by Techno-utopianism. An interesting founding feature of this community is that there were two distinct subgroups within the broader in-group; the 'makers' and the 'fan -boys'. Somewhat typical of a digital community even this distinction was given plurality as the Flash-makers were made up of a broad, complex international group of 'artists, developers, poets, geeks, punks and freaks' (Davis 2001) who were initially connected by the forum Dreamless.org (Fig. 3), a semi-secret community discussion board that was initially focused on technical problem solving but quickly established itself as a place to debate, collaborate and creatively remix members work. If we invert the descriptors from Davis's quote then we can sense who were the excluded *out-group*: pro-conformists and managers were the opposition. This initial definition of *them* and *us* clearly has an anti-authoritarian tone (bathed in the virtues of Internet freedom) but interestingly has a direct correlation to a physical social reality, where account managers and design agency managing directors were very salient – representing a pre-existing offline stereotype.

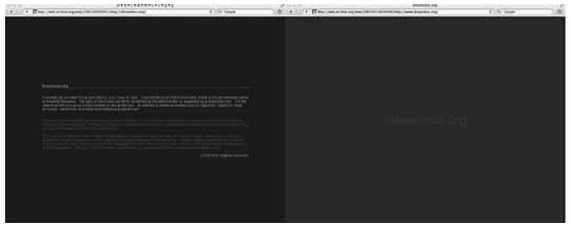


Fig. 3. The registration pages from Dreamless.org (Jan– July 2001) courtesy of the Way Back Machine Internet Archive 01/19/2001 http://web.archive.org/web/200101191036/http://www.dreamless.org/

Outside the *Dreamless* message-board there was close and direct communication between community members, centered on one another's personal projects. Direct communication came in the form of daily conversations held using early forms of Internet chat, such as ICQ and MSN messenger. These long and often multiple conversations often ran simultaneously alongside the day job (interactions with the out-group); a clear antecedent to Antonelli's and Turkle's always-on networked mobile -user. These were relationships that were, importantly, chosen and desired – a subtle difference to the pressured 'cycle of responsiveness' as described by Perlow (2008).

The creative potential and sense of freedom in developing projects, without the corporate client, was enticing. The fact that there were like-minded connectable (via ICQ or private forums) peers was 'intoxicating' (Gifford 2011). Counter to the standard SIT observation that competition occurred between the in/out groups, the FC used a competitive urge to 'do better' as an internal driver to increase innovation within the production of personal projects. In an interview with a FC maker, Hoss Gifford (UK), we discussed the common fallacy that the maker sub-group were ideologically open source . Apart from Davis, who copied and sold his *Praystation* hard drive , most of the makers did not actively share their code within the group or publicly. Rather, there was a fast cycle of deconstruction and reverse engineering of the makers new experimental projects by these fan-boys. This practice of reverse engineering had little or no deleterious effects – the appreciation of the makers craft grew from those novice Flash-makers, who were stimulated by meddling with the code inside inspirational projects. Without the fan-boys the upcoming move to a broader cultural impact and the self-esteem of the FC would have been impossible. The group self-esteem was amplified further by a swelling internal member audience for these personal projects, visually evidenced by community members adding each other to their link sections on websites, user hit-counters, Website hosts' stats on downloads, online 'zines' and forums .

> Turner states (Tajfel & Turner 1979b): 'The individual's choice of behaviour is posited to be dictated largely by the perceived intergroup relationship. In particular the choice of strategy is an outcome of the perceived permeability of group boundaries, as well as the perceived stability and legitimacy of the intergroup status hierarchy.'

Frequent heavy usage in the established forums, the launching and critiquing of new work and the personal instant messaging between peers kept the group visibly active and helped promote salience for categorisation. These virtual relationships also traveled past the boundaries of the Internet with impromptu local meetings, or 'riots', that were arranged for Dreamless users to meet face-to-face and exchange ideas around the NYC area. As the FC matured, at the turn of the Millennium, and during the period leading up to Web 2.0, in-group tensions developed, helping fuel member disputes within Dreamless, especially within the notorious Dreamless thread *08 – Meaningless and Shallow*. Davis shut Dreamless down on July 2001, after 3 years. Various systems of commodification had fallen into place and the remote networked nature of the makers and fan-boys had been given a more physical structure. The Flash Forward conferences (2001 -5) talked about 'meeting your heroes' on their registration site – giving credence to the idea that there was an e-Hollywood with new media superstars (Sapnar 2002). Mainstream cultural visibility was achieved via the various books in publication (O'Reilly lead the market), makers' personal projects were offered sponsorship by brands attempting to co-associate (e.g. fashion label Diesel had a new media gallery and Sony developed Thethirdplace.com) as well as invitations to exhibit in the likes of the Design Museum, the ICA (both London) and MoMA – PS1 (New York).

The semantics of behavior had problematically changed within the FC. As actions became more physically distinguishable salience seemed to become more complex (or diluted) as individuals continued to communicate online but had a more public dimension. This tension or dislike around FC 'superstardom'

ultimately resulted in an extension of the FCs designated out-group; superficial and broad cultural legitimisation became problematic, alongside being too conformist and corporate. In addition some of the original makers, such as Robert Hodgin, Casey Reas, Mr. Doobs and Hoss Gifford, were now exploring *Processing* (Java) and *openFrameworks* (C++) and as such moved almost entirely away from Flash as a tool, challenging the fundamental premise of why individuals would gravitate toward or seek the FC.

What is unclear is that this change has created a new out-group, which trumps the original, or an extension of what constitutes the FC out-group. Looking for any Web 2.0 era migration within the initial maker group it is clear that the majority have retained their initial dualism between corporate and personal projects – but with many founding their own digital media agencies. This gives rise to the challenge of hypocrisy. That conforming to corporate stereotypes was now permissible in either scenario evidences a recent change in the FC identity. Further research undertaking a close reading of makers' emergent corporate politic could reveal if they assimilate or sustain the FC's original anti-establishment ethos.

Summary of Observations – Conclusion

This diversification of context into more of an offline and less of a closed online communication, combined with a broadening of cultural reception and blurring of specialist technology interest (rather than the lack of a clear out-group), has ultimately broken the internal self-enhancing positive distinctiveness within the FCs intergroup status. Whilst the FC has a split ecology of fan-boys and makers, the maker group has been more instrumental in creating this change and challenged the groups distinctiveness.

By looking at the FC it is immediately clear that the dynamics and conditions of social identity have altered but not radically 'bypassed', as Turkle suggests (2011). Even within the current context of ongoing deep change and uncertainty, categorisation as process can still be located – *ergo*, the impetus to create social identity remains.

1. In considering salience in the FC – stereotyping of the out-group was more privileged rather than looking for a comparative fit. This method avoids the issue of inauthentic representation from those who choose to play in the freer possibilities of online identity and expression.

2. However the process of comparative fit may have been part of the endless reception and critique of the makers' personal projects.

3. The goal of reducing uncertainty – to 'achieve meaning and clarity' (Brewer 2003) for oneself in social settings – was solid in the early FC stages and was loosened with expansion of the group and changes in the characteristics of the makers' offline interactions, challenging established in-group distinctiveness.

4. Although a deeply digitally mediated grouping the offline context provided the content for conceptualising the FC's out-groups. This supports the idea that people are able (rather than failing) to cross the threshold of offline and online; that their behavioural assumptions and attitudes can be carried between contexts.

5. Structure of status can be even more complex or nested within digital in-groups. For example, the FC possessed both a constructive sub-group of expert makers and fan-boys whilst still having an explicit out-group.

How ideas of self are formed and *the process* is sustained remains key. Critical Psychology, as a potential perspective, acknowledges that social conditions affect the well being of groups *and* individuals. Being out of place – neither in one place or another but two (or many), both virtually and physically, could be described as a normal condition of living. For participants in the FC they were out of place whilst creating a strong in-group. The loss of boundaries or self-evident framework categorisations (e.g. age, gender, race) placed greater weight on frequent communication and interaction between the fan-boys and makers. Creative productions of personal works helped foster some comparative fit and create self/group esteem. After approximately eight years of functioning (a lengthy time by Internet standards) and coinciding with the emergence of Web 2.0, the FC faced new existential challenges, predominantly from the physical world, which has seen the in-group and out-group change. What remains unclear is if the FC will evolve and elastically transform their in-group characteristics within a Web 3.0 environment or disband and dissipate into a digital deluge of possible identities.

Notes

1. Academic: *Digital Transformations in Arts and Humanities* is a key theme for the UKs Arts & Humanities Research Council in 2011/12. Public: Rise in tabloid press and broadcaster interest; see *The Anti-Social Network* (Monday 19 March 2012, 9pm) a documentary shown on the BBC channel, the British public service broadcaster. Civic: The UK wide *Draft Communications Bill* was formally presented as part of the Queens Speech 2012 which requires internet companies to install hardware enabling Government Communications Headquarters to examine 'on demand' any phone call made, text message or email sent, and website accessed in real time.

2. In her book *Alone Together* (2011) Turkle gives an example of the 'Life Mix' in which she observed a man playing with kids in the park whilst communicating with his virtual mistress on his iPhone.

3. In *Social Development Theory* Vygotsky (1978) argues that social interaction precedes development; consciousness and cognition are the end product of socialisation and social behaviour, *The More Knowledgeable Other* (MKO) required for development can, in this contemporary context, become the computer and or digital relationship/s.

4. Predominately based in theories from Schopenhauer (1844), Jung (1956) et al. and more recently Stiegler (2009).

5. The test cases were schoolboys who it is argued are problematically predisposed to view groups as competitive teams (Karp, D. et al., 1993).

6. Weblogs or 'Blogs' are a phenomenon that appeared around 1999. This blogging explosion is often attributed to the easy to use and free authoring tools such as Blogger.com and Pitas.com and recent tools such as Wordpress.com and tumblr.com. Blogs tend to be communal portals for discussion in which an individual author/editor 'posts' subjects / topics for discussion and 'members' can then in turn post replies. The most simple criterion for a blog is that the website consists of dated entries, though most blogs contain hyperlinks, embedded visuals, animated content, commentaries, personal notes and are frequently updated – often daily.

7. Somewhat muddied by the rise of 'bots' profiling our search engine requests and cached cookies from browsing.

8. Dreamless.org intentionally used an understated Web presence and hidden registration page to create intrigue/intimacy/some privacy based on an early collaborative hack over a 'faces to names' thread (Cloninger 2001).

9. Actionscript/ Flash developers are lower ladder workers and artists and poets are (stereotyped) as too creative to be management.

10. An OpenSource software license permits the user to modify or copy the source code.

11. Eastgate Systems also sold Praystation's limited edition Hard-disk (2002), http://www.eastgate.com/catalog/Praystation.html [Assessed 6th of July 2012].

12. For example Yugop's *Nervous Matrix* a 3x3 grid project was remade and shared within the week after it was launched by fans. http://yugop.com/ver2/works/typospace3.html [Assessed 6th of July 2012].

13. An interesting set of posts spanning March 2003 to July 2008 talking about Flash's experimental form over usability / function and the commercial inflated price charged by the Kioken NYC Agency /Josha Davis: http://gadgetopia.com/post/304 [Assessed 6th of July 2012].

14. Designer led forums set up after the demise of dreamless: YayHooray.com, Humhum.be and butt3rscotch.org [Assessed 6th of July 2012].

15. The Design Museum held the *Web Wizards* exhibition in London, 30 Nov 2001 – 21 April 2002. The Carnivore client /group was exhibited at the *Open_Source_Art_Hack* at The New Museum of Contemporary Art, New York City, May 2002 and at the Princeton Art Museum in *Anxious Omniscience: Surveillance and Contemporary Cultural Practice*, January 2002. InsertSilence / James Paterson has exhibited at the ICA, *Forget Me Not and Other Stories_* London, 2003, 13 Feb - 15 Mar, and the Seoul Museum or Art, *Seoul International Media Art Biennale_* Seoul, 2002, 26 Sept - 24 Nov. Joshua Davis/Praystation has exhibited at the Tate Modern (London), the Design Museum (London), le Centre Pompidou (France), The Institute of Contemporary Arts (ICA) 2003 in London and Whitney Museum – December 2002. Design Museum has permanent archived influential designer pages for Daniel Brown/Noodlebox, Yugop Nakamura and Joshua Davis.

16. Notable Maker migrations between 2000-5 to 2011: John Maeda, then MIT media lab, now Academic (was principle of RMIT). Daniel Brown, then working for *Showstudio*, now freelance consultant and artist. Natzke, then designer at forum, now working for Method and freelance. Prate, freelance designer / art director, now has her company *SansNom*. Mike Cina, then founder of *Wework for them*, now owns company *Cinaart*. Jared Tarbell, then freelance developer now Partner in *Etsy*. James Paterson, then *Insertsilence*, now technical Director in an agency. Joshua Davis, then freelance *Praystation*, now Academic at Pratt and freelance artist. Marcos Wescamp then, *Razorfish* now owner *Flipboard* iphone App. Gmunk, then Freelance designer, now Motion graphics – recent *Tron* remake.

17. Reviewing the current Flash conferences such as *FITC* and *Flash on the Beach*, reveal the wide-open scope of interests spanning motion and video graphics, gaming, mobile technologies, HTML5, film as well as Flash.

Bibliography

AMA (2007) 'Emotional and Behavioral Effects, Including Addictive Potential, of Video Games'. http://www.amaassn.org/ama1/pub/upload/mm/467/csaph12a07.doc [Accessed 7 July 2012].

Booth, R., (2004) 'Twitter joke trial: bomb threat "obviously facetious' http://www.guardian.co.uk/uk/2010/sep/24/twitter-joke-trial-obviously-facetious [Accessed 7 July 2012].

Burke, P.J. (ed.) (2006) *Contemporary social psychological theories*. Stanford University Press.

Bruner, J., Goodnow, J., & Austin, A., (1956) *A Study of Thinking*. New York: Wiley.

Brewer, M.B. (2003) 'Optimal Distinctiveness, Social Identity, and the Self' in M. Leary and J. Tangney (eds.) *Handbook of Self and Identity*. pp 480–491.

Charles, K. (2011) 'Why Facebook is stressing Us Out'. http://www.newstatesman.com/blogs/the-staggers/2011/02/facebook-friends-social-users [Accessed 7 July 2012].

Cloninger, K., 2001. 'Mouchette has a posse'. http://rhizome.org/artbase/artwork/2261/ and http://rhizome.org/search/?q=dreamless.org [Accessed 7 July 2012].

Davis, J. (2001) 'Issue 100 k10k.net' (offline). http://www.cubancouncil.com/work/project/kaliber-10000 [Accessed 7 July 2012].

Farago, P. (2012) 'China Now Leads the World in New iOS and Android Device Activations'. http://blog.flurry.com/bid/83261/China-Now-Leads-the-World-in-New-iOS-and-Android-Device-Activations [Accessed 7 July 2012].

Giannakakis, A.E. & Fritsche, I. (2011) 'Social identities, group norms, and threat: on the malleability of ingroup bias' in *Personality and Social Psychology Bulletin* 37(1). pp. 82-93.

Gifford, H. (2011) *The History of Flash?* Oral Interview with Donna Leishman. Glasgow, Unpublished.

Greenfield, S. (2009) 'How Facebook addiction is damaging your child's brain: A leading neuroscientist's chilling warning'. http://www.dailymail.co.uk/femail/article-1172690/How-Facebook-addiction-damaging-childs-brain-A-leading-neuroscientists-chilling-warning.html

Holmes, D. (1997) Virtual Politics: Identity and Community in Cyberspace G. Turner, ed., Sage Publications.

Jarrett, C. (2011) 'Has the Internet become an external hard drive for the brain?' *Research Digest: Blogging on brain and behaviour*. http://bps-research-digest.blogspot.co.uk/2011/07/has-internet-become-external-hard-drive.html [Accessed 7 July 2012].

Jung, C.G. (1956) *Symbols of transformation – an analysis of the prelude to a case of schizophrenia*. Princeton University Press.

Martens, M. (2011). 'Transmedia teens: Affect, immaterial labor, and user-generated content' *Convergence: The International Journal of Research into New Media Technologies*. 17(1). pp. 49-68.

Karp, D. et al. (1993) 'Raising the minimum in the minimal group paradigm' *The Japanese Journal of Experimental Social Psychology*. 32(3). pp. 231-240.

McFedries, P. (2002) 'Prosumer. Word Spy'. http://wordspy.com/words/prosumer.asp [Accessed 7 July 2012].

Naughton, J. (2011) 'Only a fool or Nicolas Sarkozy would go to war with Facebook'. http://www.guardian.co.uk/technology/2011/may/29/children-social-networking-sarkozy [Accessed 7 July 2012].

Naughton, J. (2012) 'Improve efficiency – switch off your smartphone'. http://www.guardian.co.uk/technology/2012/may/20/smartphone-email-switch-off-productivity [Accessed 7 July 2012].

Oakes, P.J. & Turner, J.C. (1986) 'Distinctiveness and the salience of social category memberships: is there an automatic perceptual bias toward novelty?' *European Journal of Social Psychology*. 16(4). pp. 325-344.

O'Reilly, L. 'Nokia reveals 'chapter two' of new strategy'. http://www.marketing-week.co.uk/news/nokia-reveals-chapter-two-of-new-strategy/4000321.article [Accessed 7 July 2012].

Perlow, L. (2008) 'Sleeping with your smartphone: How to break the 24/7 habit and change the way you work'. Boston, MA: Harvard Business Review Press.

Pushkin, M. (2011) 'Beyond Paradigmatic Shift: Mapping Culture and Society of Digital Age' *Theories of Social Media Panel ISEA*. Available at: http://isea2011.sabanciuniv.edu/paper/beyond-paradigmatic-shift-mapping-culture-and-society-digital-age [Accessed 7 July 2012].

Sapnar, M. *The Code Looks Back: Flash Software, Virtual Spectators, and the Interactive Image*. Georgetown University MA Thesis.

Schopenhauer, A. (1818) *Die Welt als Wille und Vorstellung (The World as Will and Representation)*, vol. 1 in 1818 and vol. 2 in 1844

Stiegler, B. (2009) 'Teleologics of the Snail: The Errant Self Wired to a WiMax Network Theory' in *Culture & Society.* vol. 26 no. 2-3, 33-45.

Tajfel, H. & Turner, J., 1979. An integrative theory of intergroup conflict. IN: WG Austin & S. Worchel. In W. G. Austin & S. Worchel, eds. The social psychology of intergroup relations. Brooks/Cole, pp. 33-48.

Tajfel, H. (1979) 'Individuals and groups in social psychology' *British Journal of Social and Clinical Psychology*. 18(2). pp. 183-190.

Tajfel, H. (1981) *Human Groups and Social Categories*. Cambridge: Cambridge University Press.

Turel, O., Serenko, A. & Bontis, N. (2011) 'Family and work-related consequences of addiction to organizational pervasive technologies' *Information & Management*. 48(2-3). pp. 88-95.

Turkle, S. (1995) *Life on the screen: identity in the age of the Internet*. New York: Simon Schuster.

Turkle, S. (2011) Part 2. *Avatars and Identities. Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books.

D, C.P. et al. (1978) *Mind in society: The development of higher psychological processes. LS Vygotsky*. M. E. Cole et al. (eds.) Harvard University Press.

Wajcman, J. et al. (2010) 'Enacting virtual connections between work and home' *Journal of Sociology* 46(3). pp. 257-275.

Invisible Participation: Language and the Internet

Mimi Cabell, John Cayley, Daniel Howe, Jason Huff, Clement Valla

Language is the hidden scaffolding of networks, applications, and web sites. It is minified and monetized in ways that are often occluded from the everyday user's experience. From their point of view, the interaction is innocuous – language is used for labels and explanations. A few words are typed into an empty field and thousands of related results appear instantly. A simple search, an email to a friend, a unique phrase – all easily logged, monetized, and indexed. This is the world of invisible participation.

Our panel is interested in language on the Internet, how it is created, by whom, where it exists, and how it is used. Three examples: Google reads our emails, garners information from our personal messages and uses that profiling strategy to select "relevant" ads. It then displays those ads on the screen next to the very emails from which the information was initially taken. Facebook and other social media platforms use similar methods of securing and storing data — data that is paradoxically private and public, and all personal. Further, crowd-sourced encyclopedias like Wikipedia are shaping the way we read, learn, and think. Language is what links all of these sites together. All of the sites' underlying organization and structures have been built to follow the logic we ourselves employ in using language. "Robots" read content, algorithms interpret it and databases memorize it. The impact of this process is no longer confined to the Internet, but has reached beyond it into our everyday lives.

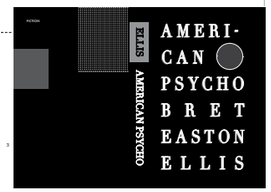
Excerpt from John Cayley's *Invisible Participation: Terms of (ab)use*

There must have been a historical moment when Google realized that its famous search box was not a portal but a mouth, when it realized that the collection and analysis of all the search terms continually being supplied to Google by human writers was far more valuable than any indexes it had generated from what had already been inscribed on the surface of the network. By definition and protocol, the surface of the network is open to and, in principle, independently indexable by any terminal peer. Thus we still think of Google as a gift. A true search has been freely given. Any other terminal peer might have found a true search, but Google did so. The trick was simply to discover the one true search at the historical moment just before Moore's law made it feasible for any terminal peer to do the same on any scale. The free service worked. It was and is used by all-but-every terminal on the network. Google as the zero-degree of the portal—transparent, self-effacing access to some other writing on the network that a human user wishes to read—was precisely that: nothing. For now we see that Google is entirely focused and founded on everything that we feed into its mouth, everything that is proper to us as desiring humans, or, more precisely, proper to the network-authorized agencies of human and posthuman desire. Google must find a way to keep an overwhelming and representative majority of such entities feeding it with data (capta) or, better yet—learning from Facebook, its complementary vectoralist peer—a way to take into itself (as Google+) every property and method of symbolic human self-representation on the network. As of the present day, a vast majority of human terminals on the network willingly and frequently write into one particular space, the maw of Google. At the very moment of doing so we more or less implicitly agree to terms that establish a hierarchical, non-mutual, non-reciprocal relationship and we allow the abduction of our terms of reference.

[Visit:] http://constantdullaart.com/TOS/

The making of the agreement by such means is likely to be asserted as an initial article of the terms themselves. Contracts are often agreed more or less implicitly—by the shaking of hands, after a loose verbal exchange, and so on—and, as such, they may nonetheless be recognized in custom and in law. In the case of Terms of Use or Terms of Service, the contract is most often explicit from the point of view of the provider, while the human terminal is likely to remain unaware of the agreed terms in any detail.

Related Works



American Psycho
Softcover book
Mimi Cabell &
Jason Huff
(2011)

Hapax Phaenomena
Image collection
John Cayley &
Clement Valla
(2011)

American Psycho was created by sending the entirety of Bret Easton Ellis' violent, masochistic and gratuitous novel *American Psycho* through GMail, one page at a time. Mimi Cabell and Jason Huff collected the ads that appeared next to each email and used them to annotate the original text, page by page. In printing it as a perfect bound book, they erased the body of Ellis' text and left only chapter titles and constellations of our added footnotes. What remains is *American Psycho*, told through its chapter titles and annotated relational Google ads.

Selected notes from the Release Statements:
* These Phaenomena are fragile.
* The moment of historical singularity for each constituent image will come to an end if a Hapax Phaenomenon is exposed to the network - by posting online for example - since indexing robots will then capture the metadata search terms in a new context and thus return - at the very least - the already collected image together with the Hapax Phaenomenon itself - a minimum of two images - for any item in the collection thus exposed. The potential for future postings from the ensuing results raises the spectre of a mise-en-abyme.

Literal vectoralist appropriation. Screenshots, 2012. Vested vectoralist interests and prejudices reach right down into the composition of words that are proper to the writer and reader, as far as the letter itself. (John Cayley)

Selections from *Hapax Phaenomena* (2011), John Cayley and Clement Valla

NEGOTIATING THE SOCIAL

OF PEOPLE *NOT* MACHINES: AUTHORSHIP, COPYRIGHT AND THE COMPUTER PROGRAMMER[1]

Elena Cooper

Since the early years of the Information Society, legal policymakers and scholars alike have noted the ways in which digitally-mediated creative practices might challenge copyright law's concept of *'authorship'*. Not only are new forms of creation thought to make the identification of the *'author'* difficult,[2] but the status of authors in law is thought often to bear no relation to how they are perceived in creative communities.[3] These issues, amongst others, are the subject of a detailed empirical study which forms part of the HERA funded *Of Authorship and Originality* project, which draws on qualitative interviews with sixteen *'digital artists'* and/or *'digital poets'*.[4] As a further round of interviews is planned for this year, this paper presents some preliminary comments only, focussing on just one aspect of the interface between notions of authorship in law and those articulated in the interviews: authorship of computer programs.[5]

Authorship of computer programs merits close attention, on one level, because it illustrates what is one of my more general observations about the relationship between ideas of authorship in law and the *'digital arts'*: its complexity. The sphere of *'digital arts'* is characterised by a multiplicity of creative practices and consequently a diversity of ideas about *'authorship'*, which resist simplistic conclusions as to what the challenge of the digital should mean for law. At the same time, the status of computer programmers as authors draws attention to what for modern lawyers is likely to be an unexpected and counter-intuitive observation about certain aspects of the relation between digital art and law: far from always a source of challenge, the discourses of authorship in the *'digital arts'* can also provide the law with assistance.[6] Indeed, as we will see, in humanising technology and exalting the computer programmer as a creative poet, certain discourses of digital art can in fact provide coherence and legitimacy to legal concepts of authorship, rather than challenging them.

This paper starts with an outline of the ideas surrounding authorship of computer programs as revealed in the interviews conducted so far (section 1), before turning to consider their implications for the concept of authorship of a computer program contained in law (in sections 2 and 3).

The Status of the Computer Programmer as revealed in the Interviews

By way of background,[7] the interest of art museums, galleries and funders, in art employing digital technology is understood to have received momentum in the early 1990s, in the context of the origins of the internet era which renewed enthusiasm for creative uses of new media. Yet, while some of this generation of so called *'new media artists'* sought and received institutional recognition from established contemporary art institutions, others stayed outside these channels. The result was the rise of specialist institutions dedicated to supporting *'new media art'*, such as Ars Electronica in Linz, Austria and the ZKM in Karlsruhe, Germany.

As one interviewee explained, these *'new media institutions'* sustain a very different set of ideas about what it means to be creative, than *'contemporary art institutions'* (such as, for example, the Tate Modern). For the new media institutions, what matters is creative use of technology. The same interviewee (who works in *'interactive installation'*) expressed:

> when I exhibit in the new media institutions, they want to know about what software I used and what computer I used, but at the fine art institutions, they just don't care.

This environment provides art institutional underpinning to ideas about the primacy of the creative role of the computer programmer that had been articulated in art colleges since at least the mid-1980s. As the same interviewee explained *'in digital media there is a whole movement that the programmer is the supreme being...'* and this stems from the view that *'programming a computer is an art form'*, that it is *'something poetic'*.

In 2003, these ideas formed the centre-piece of Ars Electronica's annual festival, entitled *CODE*. An interviewee recalled the key themes to be these: 'It was about the programmer [being] more than a tool builder... [but] a poet, a philosopher.'

The *'core creative task'*, in this view, is the writing of the computer code. As the volume of essays accompanying the Ars Electronica's *CODE* festival explain,[8] it is the emphasis on the creative nature of code writing, that distinguishes the discourse on art sustained by *'new media institutions'*, from the work of the those so called *'soft'* digital artists, who use the computer as a mere tool to make art, without having any technical skills to program. As one essay in the collection explains:

> The advocates of *'software art'* emphasise the primacy of the code as the main creative achievement and demand an unobstructed presence and role for it in the artwork.[9]

This emphasis on the *'centrality of code'*, results in the downplaying of the significance of the user interface (or screen display) which the code produces when the program is run on a machine. As the same essay explains:

> ...the principal *'sin'* media art has committed seems to be its excessive attention to interface design.... instead of... the true nature of the system, hidden *'behind the façade'*.[10]

This is most clearly illustrated by *'Code Poetry'* which involves using computer programming language as a literary medium: the poetry is written in the specific code language of software which is made visible to the reader.[11]

This is in contrast to the aesthetic that often underpins digital art installations displayed in contemporary art institutions, which downplays the significance of the programmer's role:

> Although the movements and reactions of robotic devices and objects (or the responses produced by sensors) may be driven or processed by artist-written software, little attention is commonly paid to the conceptual aspects, cultural impact, or *'elegance'* of the software itself, which remains a hidden force that isn't foregrounded and often induces such complex interactions that its *'writing process'* simply isn't as accessible as that of a piece of code poetry.[12]

Indeed, the interviewees whose work consists of art installations involving digital technology, put forward a very different view of the status of computer programming. While acknowledging that there *is* skill and creativity in programming,[13] the programmer, in their view, is not the *'author'*. Rather, the *'author'* is the person who *'directs'* the project.[14] As interviewee Ken Feingold explained to me, this notion of *'director'* is analogous to that used in relation to certain genres of film:

> ...in the sense that we talk about [authorship] in art... I use the analogy of a film. ... Who would call the film theirs? Generally the director. ... Yes, there are a lot of people that worked on it, but you would say that this is a new film by so and so; Jean Luc Godard has made this film. We know that he had camera people, lighting people, sound people, make up, costume, sets, you know people who were moving the equipment around and who drove the trucks to bring it from one location to another. People who made the food you know, people who edited it, people who made the copies and who distributed it, but still we say this is a film by Jean Luc Godard. It is of that nature.[15]

Far from *'the supreme being'*, on this view, the programmer is just one of many contributors, who though creative and skilled, does not deserve the status of *'author'*.

A Copyright Lawyer's Response

From art, we now turn to law. How are computer programmers classified as a matter of copyright law, and what observations can we make about how this corresponds or diverges with the ideas of authorship in the digital arts revealed in the interviews?

The Berne Convention, the major international copyright treaty to which most countries of the world are signatories, concerns the protection of *'literary and artistic works'*.[16] After some debate in the 1970s and 1980s, the decision was made that *'computer programs'* would be brought within the Berne Convention definition, on the basis that they were *'literary works'*.[17] That principle is now enshrined in international copyright law (in the TRIPS agreement[18] and the WIPO Copyright Treaty[19]) and in EU law via the Directive harmonising copyright in respect of computer programs. [20]

The EU Directive further specifies that protection shall *'apply to the expression in any form of a computer program'*[21] and in two recent references to the European Court of Justice, national courts have sought guidance on the meaning of this phrase. In *BSA*,[22] the Court made clear that while this covered source code and object code, as the *'literary elements which are at the basis of computer programs'*, [23] it would not include the graphic user interface displayed on computer screens when the program was run; the latter was merely a *'means of which users make use of the features of that program.'*[24] Also not encompassed, according to the European Court of Justice in *SAS*,[25] are a program's *'functionalities'* (or service which the user receives) or a programming language, at least in so far as protection for these aspects is sought *'as such'*.

To a lawyer uncovering the varied artistic discourses on authorship (sketched in Section 1), it is immediately striking that none are antithetical to copyright principles. On either the *'new media'* or *'contemporary art'* views on computer programming, it is accepted that programming is an activity involving skill and creativity, and this accords with the inclusion of computer programs as copyright works involving an author's *'own intellectual creation'*.[26]

The divergence between law and the *'contemporary art'* model of authorship[27] stems from the fact that there is no provision for authorship (at least in the UK[28]) for the *'director'* of the art installation, as distinct from the authors of the individual elements (such as the computer program) that make up that installation. However, in drawing an analogy with film, the interviewees were not articulating a concept of authorship that goes against the grain of copyright thinking. Under various European Directives, member states are obliged to recognise the *'principal director'* as at least one of the authors of a *'cinematographic or audiovisual work'*.[29] This reflects the view that the director is, as the European Court of Justice explained in *Luksan*, at least one of the *'natural persons who have contributed to the intellectual creation of the film'*[30] (as distinct from the discrete copyright works which might arise in various contributions). It would not be unthinkable to legislate for art installations in a similar way.[31]

Not only do the *'art'* authorship concepts not appear to challenge copyright thinking, but in fact there appears to be much in common between the concept of authorship of a computer program in copyright law and new media art discourse. Both classify the computer programmer with an established category of literary author: the poet. Further, both see the programmer as the creator of a particular expression of code, downplaying the user interface or functionality produced when the program is run on a machine.

Indeed, in explaining why this is the case in copyright law, certain aspects of judicial reasoning come remarkably close to the characterisation of the programmer in the volume accompanying Ars Electronica's *CODE* festival from 2003. Under the title *The Poesy of Programming* one essay in the *CODE* volume argues that:

> Programming can be compared to writing a novel: even though the language of the novel is defined (say French or German or English), the content of what is expressed is subject to the author's imagination and creative expression.
>
> The same holds true for the art of programming: programmers each have their own style in writing programming code, and the result usually depends upon their skill and their experience... and the personal creativity of the programmer.[32]

In *SAS*[33], Advocate General Bot's characterisation is cast in similar terms, again drawing on a comparison with novel writing:

> ...creativity, skill and inventiveness manifest themselves in the way in which the program is drawn up, in its writing. The programmer uses formulae, algorithms which, as such, are excluded from copyright protection because they are the equivalent of the words by which the poet or the novelist creates his work of literature. However, the way in which all of these elements are arranged, like the style in which the computer program is written, will be likely to reflect the author's own intellectual creation and therefore be eligible for protection.[34]

Conclusions

To conclude, what are the consequences of this convergence between certain discourses of art and law?

On one level, the discourses of new media art add coherence to copyright's categories; they provide a way of thinking about the computer program which answers concerns about its

classification in law as a 'literary work.' For example, it has been said that fundamental to copyright's category of 'literary work' is the ability of the subject matter 'to afford either information and instruction or pleasure' to humans, and computer programs are more accurately seen as being concerned with controlling machines.[35] A similar concern is expressed in a leading commentary on European copyright law:

> What is problematic about copyright protection of computer programs is the fact that computer programs in their nature do not appeal to human senses but address data processing machines and may not be deemed literature and art in the broadest sense of the word.[36]

As we have seen, the discourses of new media art conceive of the computer program in a very different way: the code is to have (as we saw above[37]) 'an un-obstructed presence and role... in the art work', it is to be in the foreground. In this way, creative practices such as 'Code Poetry' make visible to the human eye, aspects of the computer program which judges have previously thought of as 'invisible to the eye' and unlike conventional literary works.[38]

Indeed, in stressing the 'primacy of the code as the main creative achievement', problematic aspects of the analogising computer program copyright and literary copyright as it applies to novels, fall away. In the UK, it has been long accepted that copyright protection extends to non-literary elements such as aspects of the plot of a novel. For so long as code is seen as 'invisible', addressed to a machine rather than a human, the tendency has been for claimants to present the 'plot' of a computer program as the aspects visible to humans (whether user interface or functionality) because the 'plot' of code is thought impossible to discern. As Pumfrey J said in *Navitaire v. Easyjet*, like a 'book of instructions', the computer code itself 'has no theme, no events, and does not have a narrative flow.'[39] The discourse on 'new media art', in bringing the creative use of code to the fore, opens up the possibility for code itself to have a 'plot', thereby facilitating the resemblance of computer programs to novels for copyright purposes.

More than merely providing copyright with coherence, the discourses of new media art also provide copyright categories with legitimacy. Anne Barron has convincingly argued that the relationship between 'art' and 'law' matters because copyright derives its legitimacy from the claim that it promotes the arts.[40] As is evident from the much publicised interview, *On the Origins of Virtualism*, given by art historian Frank Popper, a theme of art discourse is 'how technology is – or can be – humanised through art', that is how technology can be a product of human authorship.[41] In this way, the discourse of new media art, with its focus on *humanising* technology, and exalting the position of the programmer as a 'poet' or 'supreme creative being', can be brought to the assistance of law so as to resolve what Sam Ricketson has referred to as the 'struggle over the soul of copyright', when the law protects the products of machines, rather than human authorship.[42] Writing in 1992, Ricketson described the protection of computer programs as literary works by copyright, as a 'considerable distortion' of the 'concept of authorship' and not mandated by the Berne Convention (which he argues implies human authorship), as he queried whether or not they were creations of a 'literary or artistic kind'.[43] As we have seen, the discourse on new media art today, however, provides the theoretical basis for such treatment. To this extent, contrary to the perceptions noted in the opening of this paper, the digital arts can be said to provide not only coherence to copyright's notion of 'authorship', but also legitimacy to its treatment of computer programs as products of the literary and artistic domain.

Notes

1. This paper was prepared as part of the *Of Authorship and Originality* project which is financially supported by the HERA Joint Research Programme which is co-funded by AHRC, AKA, DASTI, ETF, FNR, FWF, HAZU, IRCHSS, MHEST, NWO, RANNIS, RCN, VR and The European Community FP7 2007-2013, under the Socio-economic Sciences and Humanities programme. I am grateful to Lionel Bently and Mireille van Eechoud for their comments on an earlier draft of this paper.

2. See for example the European Commission's Green Paper on Copyright and Related Rights in the Information Society, COM(95)382 final of 19 July 1995 at p.25, and Woodmansee et al. (1994) at, for example, 26.

3. This assumption underpins questions contained in the *Of Authorship and Originality* project proposal.

4. The names of the sixteen interviewees were selected from lists of 'notable individuals' on Wikipedia entries for 'Digital Art' and 'Digital Poetry' accessed in March 2011. The names were verified as genuine by Simon Biggs of Edinburgh College of Art, a Principal Investigator on the ELMCIP project, a HERA funded sister project to *Of Authorship and Originality*. No claim is made that the sample is representative of all creative practice in the digital arts. However, it was considered by Simon Biggs as providing a good spread of examples. The full list of interviewees is as follows: Philippe Bootz, Donna Cox, Marc Downie (of the OpenEnded Group), David Em, Ken Feingold, Herbert Franke, Loss Pequeño Glazier, Lynn Hershman Leeson, Miltos Manetas, Michael Mandiberg, Joseph Nechvatal, Jason Nelson, Casey Reas, Don Ritter, Lillian Schwartz and Alan Sondheim. I was also grateful to Nicholas Lambert of Birkbeck College, London and Bronac Ferran of the Royal College of Art, London for early discussions regarding project design.

5. The empirical study's findings will be presented at the final conference of the *Of Authorship and Originality* project, to be held in Amsterdam in April 2013, and published as part of that project's output.

6. As a historian of copyright law, this however is not surprising. Similar observations can be made about the relationship between ideas about photography and photographic copyright law in the nineteenth century. See Cooper (2010) at, for example, p.143.

7. The contextual information contained in this paragraph derives from the observations of artist and curator Mark Tribe and art critic Reena Jana. See Tribe et al. (2006) at 20-3.

8. Ars Electronica (2003).

9. Huhtamo (2003) at 113.

10. Ibid. at 114.

11. For example, see the work by Alan Sondheim which is explored in detail in Horst (2009) at, for example, 168.

12. Paul (2003) at 132.

13. For example, interviewee Ken Feingold explained: 'Yes, I depend a good deal on the creativity of the people that I work with, they have a tremendous influence on the outcome of the project, and it is a quite interesting process to collaborate in that creative moment with computer programmers and with sculptors...' Similarly, in interview, Joseph Nechvatal explained: 'Certainly [the computer programmers] are creative within the process. Because I am demanding things that they have not done before, in fact perhaps that no one has ever done before, so they need to bring all their creative powers to the enterprise.'

14. Interviewee Lynn Hershman Leeson described the role as follows: 'it really is like being a director of a project, you know I do so many projects and so many digital kinds of things, it is impossible to know how to program for everything. So if I want to do something with sound I get a sound expert, if I want to do A.I. now I get an A.I. person and so forth.' A.I. denotes work using artificial intelligence technology, such as utilised by Hershman Leeson in her work *Agent Ruby*. Another interviewee, Joseph Nechvatal, described his role in similar terms: 'So, I am the project director and I am controlling what comes out of it, it came from my original intentions and my name is going to be on it, so I have to be the one that is completely pleased with the end result.'

15. In another instance in the same interview, Feingold explained his view of the process as follows: 'I would say that it is collaborative to the extent that people were helping me, but I always took it as one might think of a film director, that it was my project, I was not seeing this as co-authorship, neither with the programming nor with this sculptural factors, and so the works would be fabricated for me, the physical object would be fabricated for me and sent to my studio at which point I would assemble them into sculptural objects which appear in the final work.'

16. Art. 2(1) Berne Convention for the Protection of Literary and Artistic Works (as amended 1979).

17. See Ricketson et al. (2006) at Vol. 1, para. 5.54, and von Lewinski (2008) at paras. 7.13-19.

18. Art 10(1) Agreement on Trade Related Aspects of Intellectual Property Rights 1994, to which all members of the World Trade Organisation are signatories.

19. Art. 4 WIPO Copyright Treaty, adopted 1996.

20. Art 1(1) Directive 91/250 (as originally enacted), which has more recently been codified in Directive 2009/24 EC.

21. Art 1(2) Ibid.

22. *Bezpečnostní softwarová asociace – Svaz softwarové ochrany v Ministerstvo kultury* C-393/09 [2011] FSR 18.

23. Ibid. per Advocate General Bot at paragraph AG49.

24. Ibid. at para. 41. The ECJ accepted that the graphic user interface might be protected under the 'ordinary law of copyright' if it met the standard of own intellectual creation. Ibid. at para.44. This is consistent with earlier pre-Directive case law in the UK. See the ruling of Ferris J in *Richardson v. Flanders* [1993] F.S.R. 497, 527: 'The screen display is not itself the literary work which is entitled to copyright protection. A particular display may enjoy a separate copyright protection as an artistic work in the form of a photograph, or as a film, or as being a reproduction of an artistic work in the form of a drawing the copying of which will be, for copyright purposes the copying of the drawing.' For an example of a UK case involving *inter alia* artistic copyright in a screen display see *Nova v. Mazooma* [2007] EWCA Civ 219.

25. *SAS Institute Inc v World Programming Ltd* C-406/10, 2 May 2012, at para. 46.

26. As per Art. 1(3) Directive 2009/24/EC.

27. See text accompanying footnotes 13 to 15.

28. Due to the closed list of works under s.1 Copyright Designs and Patents Act 1988, an arrangement of objects is not protected in UK: *Creation Records v. News Group* [1997] EMLR 444.

29. Article 1(5) of Directive 93/83 concerning satellite broadcasting and cable retransmission; Article 2(2) of Directive 2006/115 concerning rental and lending rights; Article 2 of Directive 2006/116 concerning term of protection.

30. *Martin Luksan v Petrus van der Let*, C-277/10, European Court of Justice ruling of 9 February 2012, arising from Austrian litigation between on the one hand, the scriptwriter and principal director, and on the other, the producer, of a documentary film called *Fotos von der Front*.

31. Indeed, currents of artistic thought often impact on how authorship is perceived by legislators. For example, a number of commentators have attributed the inclusion of the 'director' as author of a film, to the development of the French *auterist* discourse, which spread beyond France in the 1960s. See Barron (2004) at fn.108.

32. Mignonneau and Sommerer (2003) at 243.

33. [2012] E.C.D.R. 1.

34. At para. AG55. See also the comments at para. AG71 'In my opinion, programming language must be regarded as comparable to the language used by the author of a novel. It is therefore the means which permits expression to be given, not the expression itself.'

35. Christie (1994) at 488, drawing on the dicta in the nineteenth century case of *Hollinrake v. Truswell* [1894] 3 Ch. 420. See also Bing (2009), who notes the characterization of programs as 'soft machines' in the early debates about the appropriate form of protection.

36. Blocher et al. (2010) at 92-3.

37. See p.3 above.

38. As Ferris J. noted in *Richardson v. Flanders* [1993] F.S.R. 497, 527: 'Under the 1988 Act computer programs are protected as 'literary works.'' They are, nevertheless invisible to the eye which can discern a conventional literary work.'

39. [2004] EWHC 1725 (Ch) at paragraph 125.

40. Barron (2002) at 399: 'the relation between art and copyright law matters … in particular… copyright law is in some important sense answerable to the claims of art, and amenable to being judged by reference to whether and how it responds to those claims.'

41. Nechvatal and Popper (2004) at 71: 'A main thread in your new book, and the reason that you stress the biographical details of the artists, I believe, is your desire to show how technology is – or can be – humanised through art.' See also Popper (2007) at 1.

42. Ricketson (1991-2) at 2. The title of this conference paper is intended to indicate a dialogue with Sam Ricketson's observations made at the early days of the changes of technology relating to the internet.

43. Ibid. at 25.

References:

Ars Electronica (2003) *CODE*: *The Language of our Time*. Germany: Hatje Cantz Verlag.

Barron, A. (2002) 'Copyright Law and the Claims of Art' *Intellectual Property Quarterly.* 368.

Barron, A. (2004) *The Legal Properties of Film*. 67 Modern Law Review 177.

Bing, J. (2009) 'Copyright Protection of Computer Programs' in Derclaye, E. (ed.) *Research Handbook on the Future of EU Copyright*, Gloucester, UK and Massachussets, USA: Edward Elgar. p. 401.

Blocher, W. & Walter, M.M. (2010) 'Computer Program Directive' in Walter, M.M. & Von Lewinski, S. (eds.) *European Copyright Law: A Commentary* Oxford: Oxford University Press. p. 81.

Christie, A. (1994) 'Designing Appropriate Protection for Computer Programs'. 11 *European Intellectual Property Review* 486.

Cooper, E. (2010) *Art, Photography, Copyright: A History of Photographic Copyright Law 1850-191*. unpublished. PhD Thesis. University of Cambridge.

Horst, P. (2009) *Language/Art: Artistic Representation between Poetry, Concept and the Visual*. Germany: Wissenschaftlicher Verlag Trier.

Huhtamo, E. (2003) 'Reflections on Digital Arts, Codes and Coders' *Ars Electronica*. p. 110.

Mignonneau, L. & Sommerer, C. (2003) 'From the Poesy of Programming to Research as an Art Form' Ars Electronica. p. 242.

Nechvatal, J. & Popper, F. (2004) 'Origins of Virtualism: An Interview with Frank Popper' *Art Journal.* vol. 63. 62-77.

Paul, C. (2003) 'Public Cultural Production: Art(Software)'. *Ars Electronica* p.132.

Popper, F. (2007) *From Technological to Virtual Art*. Cambridge, Massachusetts and London, England: MIT Press.

Ricketson, S. (1991-2) 'The 1992 Horace S. Manges Lecture – People or Machines: The Berne Convention and the Changing Concept of Authorship' 16 *Columbia VLA Journal of Law and the Arts* 1.

Ricketson, S. & Ginsburg, J. (2006) I*nternational Copyright and Neighbouring Rights*, 2nd ed. Oxford: Oxford University Press.

Tribe, M. & Jana, R. (2006) *New Media Art*. Cologne: Taschen.

von Lewinski, S. (2008) *International Copyright Law and Policy*. Oxford and New York: Oxford University Press.

Woodmansee, M. & Jaszi, P. (1994) *The Construction of Authorship: Textual Appropriation in Law and Literature*. USA: Duke University Press.

REMEDIATING ENGLISH PEDAGOGY: NURTURING IMMERSIVE, COMPLEX AND CREATIVE LITERARY EXPERIENCES FOR STUDENTS IN CONTEMPORARY TIMES

Angela Thomas

Introduction

In the past decade there has been a significant uptake of new forms of storytelling in a multimedia digital communication culture (Alexander 2011, Page 2010, Wardrip-Fruin & Harrigan 2004, 2009, 2010). The examples reported in this paper both provide new opportunities for schooling to offer children opportunities for critical understanding and participatory capacity development in this shift in the cultures of the new media age. A number of studies have recognised that schooling has some way to go to offer students the kinds of practices with new media which they are frequently engaged in during their out of school activities (Chandler-Olcott & Mahar 2003, Lankshear & Knobel 2004, 2006, Thomas 2007). Both examples are discussed in light of demonstrating how a technology enhanced, new media infused, reconceptualisation of English teaching can prepare children for their roles as both creators and consumers in participatory interactive fictional narratives for the future.

Background

The theoretical underpinning of this paper is drawn from theories of multimodal authoring and practices and principles of alternate reality gaming, within the context of an understanding of sound pedagogical practice for young children (aged 10-12) and contemporary literary theories. Typically teachers of young children encourage the authoring of stories using written text as well as illustrations. As children have moved up through the years of schooling, illustrations have tended to take a secondary role (if any) and authoring is primarily concentrated upon the use of written text. But with the emergence of new media in an increasingly technological world, a revaluing of all modes of signification has impacted the ways in which teachers conceptualise literacy. There has been an increasing focus on visual texts, and texts of new media (Kress and van Leeuwen, 1996), leading into a conception of textuality as multimodal. Over the past decade, theories of multimodality (Unsworth 2001, Quin 2004) have persistently urged teachers to move away from the privileging of linguistic modes to a view of semiotics which accounts for all meaning-making resources (Thomas 2011b). Theorists and practitioners experiencing this shift have begun to speak in terms of multiplicities: multiple forms can be texts, and texts can be multimodal – a concept the New London Group termed 'Multiliteracies' (New London Group 1997, Cope & Kalantzis 2009a, 2009b).

Both *Inanimate Alice* and *iFiction* embody the traditions of narrative storytelling, yet use the affordances of new technologies (such as that of multimodality and multi-literacies) to create very new kinds of contemporary narrative forms which provide readers with a completely new kind of reading (and authoring) experience. Both also represent digital works which are layered across time and space. When considering the way that 'pieces' of information are layered across space, I have drawn from literary theorists who discuss the impact of hypertext on the authoring and reading process. Discussing Jackson's (1995) notable digital fiction *Patchwork Girl*, Hayles argues that:

> like many hypertexts, chronology is inherently tenuous because linking structures leap across time as well as space. As if recapitulating the processes of fragmentation and recombination made possible by digital technologies, *Patchwork Girl* locates its performance of subjectivity in the individual lexia…Sequence is constructed by accumulating a string of present moments when the reader clicks on links… This situation reverses our usual sense that time is passing as we watch. Instead, time becomes a river that always already exists in its entirety, and we create sequence and chronology by choosing which portions of the river to sample. (Hayles 2000 online).

Allen (2003) argues that hypertext as a concept is not necessarily new or innovative but it is the reader's role that is extended in dramatically different ways to traditional print based texts. He terms this new agent the 'wreader' – both the producer and consumer of textual, hypertextual practices.' He states:

> In this new reader, both production and consumption of texts is combined into one process that is self-contained. The new reader navigates through lexias to find threads of connected meaning where no author placed them…. This new reader is reminiscent of the old reader who has always decoded texts and made new meanings with them, prowling them for paths that go toward new textual centers and make new experiences. These readers are … 'radial' readers, which means that they read texts in an open-ended search for meaning. (Allen 2003 online).

Some types of digital fiction, which exemplify a range of ways that the reader needs to piece together a narrative across some form of space, are those of distributed narratives. These are digital narratives which are divided into a number of components which are distributed both spatially and temporally, such as the email narrative *Daughters of Freya* (Betcherman & Diamond 2004-2005), and the web narrative, *Online Caroline* (Bevan & Wright 1999-2000). In *Daughters of Freya*, a sequence of approximately 100 emails is delivered to your email box over the period of several weeks. The emails are actual email conversations between the characters in the narrative, and the reader is required to piece together the narrative from these letters. In *Online Caroline*, the narrative is pieced together through a range of texts: email, webcam video episodes, Caroline's diary and photo album, her phone messages and more. What is particularly fascinating with *Online Caroline* is that the reader is required to fill out a personal facts form, and this information is then explicitly used throughout the emails and web text to develop intimacy with the fictional character. Caroline calls the reader her friend. This results in the reader becoming a part of the diegesis of the fictional world. The reader is given agency to traverse the spaces of the text, or to 'perform' Bolter (2001) and 'explore' (Saltz 1997) the text.

The notion of reader interactivity and control is one that Thomas (2004, 2005a, 2005b) has emphasised as a critical affordance of digital texts. In thinking about the nature of interactivity, Thomas proposes that interaction requires the reader to act upon the text in some way in order to access it, drawing from Aarseth's early work on ergodics, in which he proposed a difference between acting passively with a text, and *doing* something to activate a text.

> The performance of their reader takes place all in his head, while the user of cybertext also performs in an extranoematic sense. During the cybertextual process, the user will have effectuated a semiotic sequence, and this selective movement is a work of physical construction that the various concepts of 'reading' do not account for. [...] In ergodic literature, nontrivial effort is required to allow the reader to traverse the text. If ergodic literature is to make sense as a concept, there must also be nonergodic literature, where the effort to traverse the text is trivial, with no extranoematic responsibilities placed on the reader except (for example) eye movement and the periodic or arbitrary turning of pages. (Aarseth 1997: 1).

As Douglas comments, 'the text draws us into it because it cannot exist without our participation' (Douglas 1996: 209). The element of interactivity and reader control is arguably at the heart of the 'radical change' (Dresang 2003) in the reading of digital fiction. Walker (2003: 11) argues that the relationship between the reader and the text is: 'central to the meaning of the work'. In cases where digital fiction includes hypertext and distribution across online spaces (though not all examples of digital fiction do this), we are finding, as Morgan (2004 online) argues, 'the distance between writing and reading is once again seriously reduced, only this time … the process of writing and reading nearly overlap'.

Technological affordances such as multimodality, hypertext, spatiality and interactivity can impact on the very nature of narrative. Specifically, there are two significant ways in which narrative is affected, and these include the notions of active reading and multivocality. Barthes (1971: 4) argued that: 'the goal of literary work is to make the reader no longer a consumer but a producer of text' and drawing from theories about hypertext (Landow 2006, Moulthrop 1971, Deleuze & Guattari 1987) as discussed above, it is clear that hypertext, hypermedia and the digital space challenge readers to assemble 'bits' of semantic meanings or 'lexia' to create their own journey through a text, and use a range of semiotic meaning making resources to construct a narrative. This in turn offers opportunities for the reader to become their own author as they navigate through a text, and insert themselves within it, as the boundaries between reader and author blur. Digital fiction *done well* can become what Bakhtin (1981) calls 'the dialogic polyphonic multivocal novel', leaving gaps for readers to reimagine the text in new ways, with voices other than the textual voice given space to have a presence.

Inanimate Alice

Inanimate Alice (www.inanimatealice.com) is an example of a 'born-digital' text, conceived of and produced in digital form, mapped out collaboratively by media producer Ian Harper, writer Kate Pullinger and digital artist Chris Joseph. It is the story of Alice, starting at 8 years old, and follows her journey across countries and time as she develops. Alice is home schooled until the age of 14, as she lives in a range of remote locations across the globe due to her father's profession. It is an example of a digital novel which utilises the multiple affordances of a piece of digital fiction: multimodality, hypertextuality, spatiality (the narrative is episodic as it unfolds over many years in time), and it requires various levels of user interactivity to progress the story forward. As explained on the *Inanimate Alice* website, the novel is both episodic and multimodal…

> Each a self-contained story, the chapters become more complex as the narrative unfolds reflecting Alice's age and competency as she develops towards her calling as a game animator and designer... [It] uses text, images, music, sound effects, puzzles and games to illustrate and enhance the narrative. (The BradField Company Ltd 2005-2011, http://www.inanimatealice.com/about.html)

What makes *Inanimate Alice* quite unique is the way in which it has used the affordance of spatiality. Not only has each episode

Fig. 1. Screenshot from *Inanimate Alice*.

been published some years apart (episode 5 of the 10 episode series is due to be published in 2012), but each episode jumps approximately two years in the life and timeline of its central character Alice. This gap in time both in 'real time' and in 'story time' has opened up a space for multivocality to occur – a space where teachers have encouraged children to fill in the gaps with their own voices, and their own reversionings of Alice's story.

Children and teachers all over the world are working with *Inanimate Alice* not just to explore new kinds of 'born digital' texts, but as a means for children to deconstruct the genre and learn how to create their own versions of the story for those intervening years. In another paper (Thomas, White & Lippis, 2012/in press) we have outlined a detailed pedagogy suitable for English and literacy educators to teach children the characteristics of multimodal digital storytelling.

iFiction

iFiction is a story-authoring mobile application designed by Angela Thomas and developed in partnership with Dr Winyu Chinthammit (HITLab Australia), as a research project funded by the University of Tasmania. It was designed to use Augmented Reality to enhance and transform children's interactive, participatory and innovative experiences with literature. Augmented Reality (AR) is defined as an interactive display system that is capable of overlaying and co-locating computer-generated images/content in the real world. This application uses the affordances of augmented reality, participatory culture, fan fiction, and alternate reality gaming to create a unique context for children to learn to be sophisticated content creators, and to engage in critical and reflective cultural practice. Children are able to author their own interactive versions of known stories using a range of media (such as video, animation, text, 2D images, virtual content, audio) and to then manipulate these media to develop an augmented reality layering of the story, placing it within a particular context of time and place, blending virtual and actual reality. Stories are developed over time in an episodic manner, to allow other children time to interact with and experience the stories and to offer critique and feedback on each episode.

In the *iFiction* application, children are encouraged to layer scenes using a multiplicity of modes, combining selections from: text, audio (music, dialogue, sound effects), photograph (of reality or of art they have created), video, virtual reality, or augmented 3D content. They then tag these 'pieces' of information to a GPS location. This creates a multi-layered complexity which we hoped would become, as Campbell (2008) noted when speaking of emergent digital fiction pieces, both 'compulsive and immersive' for children as they engaged in the authoring process. The children were responsible for weaving together combinations of the multimodal meaning-making resources to create narratives.

These concepts about new ways of composing, reading and participating within a text were also at the heart of the *iFiction* application. The narratives take the shape of an assemblage of lexia across both space and time. Lexia is in the form of a combination of media and virtual content. Space is in the form of a GPS tagged location in reality at which point the lexia are able to be accessed. Time is in the form of weekly episodes, each of which are shared, explored, critiqued and co-created by readers, thereby impacting on the progression of the narrative. In terms of this reader/writer dialectic, I have drawn on some of the practices of alternate reality gaming.

A helpful definition of alternate reality gaming (ARG) is found in Alexander (2011), who explains:

> An ARG is a combination of story and game. Its contents are distributed throughout the world, usually online, perhaps with physical locations as well. Users play the game by discovering bits of content and discerning the story to which those items belong, while comparing notes with other players. Collaboratively, collectively, players hunt for new pieces of the story, sometimes solving puzzles to do so. The pieces are usually not formally identified as part of a game… (Alexander 2011: 152).

ARGs have traditionally been used as marketing tools. The first known ARG was designed in 2001 to create buzz for the movie *AI*. As an emerging phenomenon they are only just beginning to be recognised for their potential within educational contexts.

In the *iFiction* research project, students in a year 6 class were divided into two groups – the authors and the readers. Authors worked with me to create one (or a part of one) episode each week. During the week, the teacher of the class would allow the readers to explore the episode, critique it, and respond to it with suggestions such as what they hoped or expected might come next. The following week, these suggestions were either included in the episode, or deliberately twisted to surprise the reader in the next episode. In this way, the authors and readers worked together to co-create the text. Unlike ARGs, which have an air of mystery to them with readers never knowing who the authors are, in the classroom context the more actively and consciously participating in the texts allowed the teacher to encourage lively collaboration and critique of texts. It also allowed more explicit episodes of teaching about the nature of story, the structure of a story, its genre, literary features and grammatical design. In the process of creating lexia in the video format for example, the teacher was able to discuss the use of camera angles and motion and teach the grammatical metalanguage associated with visual and film literacies to the whole class. Similarly, in the process of discussing how to immediately intrigue the reader with the story, the teacher was able to discuss the various ways good literature might begin.

As in an ARG, the content bits or 'lexia' of the children's *iFiction* are created across space. An ARG is primarily online, with some content existing in the physical space. Contrary to this, *iFiction* is primarily located in the physical space (and as such is a 'locative story' using the affordances of AR), and in this case, the physical space is primarily the school playground, which has been transformed in children's imaginations into the setting for their fictional universes. However some content is posted online on a class blog, which also allows readers to participate in writing as a commenter on the blog. Most of the collaboration however happens within the real space of the classroom and in the playground.

iFiction was designed to exemplify a range of features of digital fiction and ARGs appropriate for a year 6 teaching context. The project, as noted above, aimed specifically at the provision of a technology enhanced, new media infused, reconceptualisation of English teaching, through offering students an innovative and radical new way of thinking about writing and reading.

The trial of *iFiction* is taking place with a year 6 class in a primary school in Tasmania. The two teachers working with me to trial the app have considerable experience with multimodal authoring, however the children are quite new to it. In my visits I am focusing mainly on the authoring process with half of the class, whilst the teachers are working with the readers and the whole class teaching between my visits. To date a series of visits have occurred, and preliminary data gathered, and this will be explicated below.

Drawing on drama in education teaching strategies (Neelands & Goode 2000), I worked with the teachers involved to concentrate on developing content which would establish the context of the children's reversionings of the text. The two strategies we used included: a written diary entry which revealed the central character's feelings about the missing character, and a drawn 'photograph' which revealed the relationship between those two characters. Children worked in pairs to construct their content. An example of a written diary entry is:

Fig. 2. A drawn 'photograph' revealing character relationships.
Fig. 3. Central Character for iFiction quest.

> She's gone. I don't know where. I don't know why. All I know is she's gone and I miss her. She's more than just a sister to me. She's my lifelong friend, and I'm going to find her. She needs me. And I need her.

An example of a 'photograph' is seen in Fig. 2.

This content was placed on the class blog as well as within scene 1 on the *iFiction* app and served as the orientation for the reader for the beginning of the quest. In light of the fact that in quests the central character needs to have a character flaw which is to be overcome as a result of and by the end of the quest, children were next invited to write a script to rehearse a brief role-play which demonstrated that flaw, and this was then produced in video format with the *iFiction* app. One story for example, had as its central character a young girl who suffered anxiety, and took refuge with food as an avoidance of her issues. The images associated with this character, both drawn and then in costume within the roleplay are shown in Fig. 3.

In the early stages of the project, the teaching focus was on the nature of the narrative and in particular the quest genre. Content 'lexia' combined print based media such as the drawings and the writing, with digital media such as video. As the children began developing their quests further this combination of print and digital media continued, though digital media was used increasingly as the quests progressed.

Students spent considerable time developing logical literary directions for transporting their characters in and out of 'fantasy' worlds. In terms of the technical process involved, it drew upon mixed reality techniques such as overlaying virtual content onto the real world (see Fig. 4) and layering a real character into a virtual world (see Fig. 5).

Fig. 4. Experimenting with layering virtual content onto real world background.
Fig. 5. Experimenting with layering real character onto virtual world background.

Fig. 6. Reading using the navigation system.

Reading the text involves reading a navigation system, where the various multimodal 'lexia' are represented as dots plotted out across the compass, and students used this to navigate through real space. This is best represented in Fig. 6.

Early work with children has demonstrated that all were quickly able to navigate through the stories created by others. The use of the navigation instrument as well as the inclusion of a vibration of the tablet when in range of new content offered all the cues they required to locate scenes and uncover story content. One child remarked that it was just like hunting for treasure, and it became both engaging and game-like in the quest to discover what came next. The target age was 10-12 year olds, and this also related to our choice of a novel suitable for that age. However early data suggests that the application has potential for use with a wide range of ages, allowing more or less complexity and sophistication as appropriate.

Discussion

There is no doubt that using the application as an authoring tool for stories during English and Literacy sessions was and is highly motivating for the students. Whilst I only ever planned to work with one small focus group, the enthusiasm of both teachers following their first workshop with the software, and the focus group following their introduction to *iFiction* has resulted in all children within the class becoming deeply immersed in the project. This resulted in a team approach between the two teachers and I to develop a carefully tailored pedagogy that extended beyond my weekly visits and into the normal classroom teaching sessions.

In the first visit, I introduced the nature of quests, and following this visit the teachers are teaching all children about the literary genre of quests, using the novel *A Wrinkle in Time*, as well as other novels, tv series and films familiar to the children. As they deconstruct the literary features of quests, the children consider how and when those features might be appropriate for their own stories. In addition, the teachers are teaching the grammatical metalanguage required for the meaningful selection of video shots, words, images and sounds. This includes simple metalanguage related to images such as 'social distance' (Kress & van Leeuwen 2006), to more complex concepts such as 'intermodal parallelism' (Thomas 2011a). That is, carefully selected layerings of content within several modes to create particular literary effects such as humour, irony or pathos (see also Thomas 2012/ in press).

Furthermore, to capture the sense of theatricality and performance involved in participating in new kinds of fiction, I drew heavily on drama teaching strategies. These strategies (such as drawing a 'photograph', writing in role, role-playing, soundtracking, flashbacks) provided children with an engaging and meaningful narrative authoring structure, one which gave them time to develop a strong context for the quest, time to develop rich and complex characters, time to create episodes of narrative action, poetic action, and reflective action (as described by Neelands & Goode 2000). This enabled the authoring process to be on the one hand controlled, purposeful and effective, yet on the other hand also highly engaging and somewhat chaotic. This created a pleasurable tension with the children as what felt like playing, performing and having a lot of fun with the *iFiction* application was clearly at the same time teaching them about English, about literature, and about literary and grammatical techniques to use to entertain, engage and emotionally affect their readers.

6 Conclusion

Inanimate Alice and *iFiction* both offer many opportunities for teachers to introduce the reading and authoring of digital fiction into their classrooms. In Australia, digital texts and multimodal authoring have been named as significant new inclusions in the national English curriculum. As curricula change to embrace the opportunities afforded by new media, teachers are searching for meaningful and relevant ways to incorporate and blend the new within existing classroom contexts. Both *Inanimate Alice* and *iFiction* reflect either born digital texts or remediated digital texts which draw from a long literary tradition, and both seem eminently suitable as ways to bridge the gap between what teachers are familiar with already, and the new, more radical kinds of texts that new digital media artists are creating. What I have been working on with both of these new forms of storytel-ling in the classroom is developing sound pedagogical resources for teachers to assist them as they embrace the new curriculum.

References

Aarseth, E. (1997) *Cybertext: Perspectives on Ergodic Literature*. Maryland: Johns Hopkins University Press.

Alexander, B. (2011) *The New Digital Storytelling*. Santa Barbara, CA: Praeger.

Allen, M. (2003) 'This is not a Hypertext, But…: A Set of Lexias on Textuality. Ctheory'. http://ctheory.net/text_file.asp?pick=389

Bakhtin, M. M. (1981) *The Dialogic Imagination: Four Essays. By Michael Holquist*. University of Texas Press: Austin.

Barthes, R. (1971) *S/Z. trans.* Howard, R. Hill and Wang: New York.

Betcherman, M. & Diamond, D. (2004-2005) 'The Daughters of Freya'. http://ctheory.net/text_file.asp?pick=389 http://emailmystery.com/dof/index.php

Bevan, R. & Wright, T. (1999-2000) 'Online Caroline'. http://www.onlinecaroline.com

Bolter, J. D. (2001) *Writing Space: Computers, Hypertext and the Remediation of Print*. (2nd Edition). London: Lawrence Erlbaum Associates.

Campbell, A. (2008) 'Undreamt Fiction'. http://www.dreamingmethods.com/uploads/resources/Undreamt_Fiction.pdf

Chandler-Olcott, K. & Mahar, D. (2003) 'Adolescents' anime-inspired 'fanfictions': An exploration of multiliteracies' *Journal of Adolescent & Adult Literacy*. 46(7). pp. 556-566.

Cope, B. & Kalantzis, M. (2009a) 'Multiliteracies': new literacies, new Learning' *Pedagogies: An International Journal*, 4 (3), pages 164-195.

Cope, B. & Kalantzis, M. (2009b) 'A grammar of multimodality' *The International Journal of Learning*. 16 (4). pp. 361-426.

Deleuze, G. & Guattari, F. (1987) *A Thousand Plateaux*. University of Minnesota Press: Minneapolis.

Douglas, J. Y. (1996) 'Virtual Intimacy and the Male Gaze Cubed: Interacting with Narratives on CD-ROM' *Leonardo*. 29, 3. pp. 207-213.

Dresang, E. (2003) 'Radical Change: A Theory for Reading and Writing in the Digital Age' *Wisconsin Symposium on Reading Research*. June. Florida State University.

Hayles, N. K. (2000) 'Flickering Connectivities in Shelley Jackson's Patchwork Girl: The Importance of Media-Specific Analysis'. http://www.iath.virginia.edu/pmc/text-only/issue.100/10.2hayles.txt

Jackson, S. (1995) 'Patchwork Girl'. *Electronic*. Eastgate Systems. 1995.

Joyce, M. (1989) *Afternoon, A Story*. CDRom. Eastgate Systems.

Kress, G. & van Leeuwen, T. (2006) *Reading images: the grammar of visual design*. 2nd ed. Routledge: London.

Landow, G. (2006) *Hypertext 3.0: New Media and Critical Theory in an Era of Globalization*. Baltimore: The Johns Hopkins University Press.

Lankshear, C. & Knobel. M. (2004) 'New literacies: Research and social practice'. Opening plenary address presented at the *Annual Meeting of the National Reading Conference*. San Antonio, 2 December 2004.

Lankshear C. & Knobel, M. (2006) *New Literacies: Changing Knowledge and Classroom Learning*. London: McGraw Hill.

L'Engle, M. A (1962) *Wrinkle in Time*. New York: Crosswicks Limited.

Morgan, H. (2004) *Exploring Hypertext's New Reader: Some Theoretical Approaches*. http://www.athabascau.ca/courses/engl/475/archive/morgan_exploring.pdf

Moulthrop, S. (1994) 'Rhizome and Resistance: Hypertext and the Dreams of a New Culture' in Landow, G. (ed.) *Hyper/Text/Theory*. Baltimore: The Johns Hopkins University Press.

Moulthrop, S. (1997) *Practical Criticism for Hypertext*. Ohio State Univeristy Colloqium, Ohio. April 1997. http://iat.ubalt.edu/moulthrop/talks/osu/

Neelands, J. & Goode, T. (2000) *Structuring Drama Work: A handbook of available forms in theatre and drama*. London: Cambridge University Press.

New London Group (1997) 'A pedagogy of multiliteracies' *Harvard Educational Review*. 66, pp. 60-92.

Page, R. (2010) *New Perspectives on Narrative and Multimodality*. New York: Routledge.

Saltz, D. (1997) 'The Art of Interaction: Interactivity, Performativity and Computers' *The Journal of Aesthetics and Art Criticism*. 55. 2. pp. 117-127.

Thomas, A. (2004) 'Digital Literacies of the Cybergirl' *For: E-Learning.* vol 1. no. 3, pp. 358-382.

Thomas, A. (2005a) 'Fictional Blogs and the Narrative Identities of Adolescent Girls' *Blogtalk Dowunder Conference*. Sydney, Australia, May.

Thomas, A. (2005a) 'Blurring and Breaking through the Boundaries of Narrative, Literacy and Identity' in *Adolescent Fan Fiction*. NRC Conference, Miami, US.

Thomas, A. (2007) *Youth Online: Identity and Literacy in the Digital Age*. New York: Peter Lang.

Thomas, A. (2010a) 'Children's Writing Goes 3D: A case study of one school's journey into multimodal authoring' *Learning, Media and Technology*. EJ ISSN 1743-9884.

Thomas, A. (2010b) 'Developing a transformative digital literacies pedagogy' *Nordic Journal of Digital Literacy*. 6 (1-2) pp. 89-101.

Thomas, A. (2012) 'Points of Difference: Humour, Pathos and Irony in Children's Multimodal Texts' i: Djonov, E. & Zhao, S. (eds.) *Critical Multimodal Studies of Popular Culture*. Routledge, 2012 (in press).

Thomas, A., White, J. & Lippis, R. (2012) 'Inanimate Alice: A practical approach to teaching new literacies' in Unsworth, L. & Thomas, A. (eds.) *English Teaching and New Literacies Pedagogy: Interpreting and authoring digital multimedia in the classroom*. New York: Peter Lang (in press).

Unsworth, L. (2001) T*eaching multiliteracies across the curriculum: changing contexts of text and image in classroom practice*. Buckingham, United Kingdom: Open University Press.

Unsworth, L. (2006) *Literature for Children: Enhancing Digital Literacy Learning*. London: Routledge.

Quinn, M. (2004) 'Talking with Jess: looking at how metalanguage assisted explanation writing in the Middle Years' *Australian Journal of Language and Literacy*. 27 (3). pp. 245-261.

Walker, J. (2003) *Fiction and Interaction: how clicking a mouse can make you part of a fictional world*. Unpublished Doctoral Thesis, University of Bergen, Norway.

Wardrip-Fruin, N. & Harrigan, P. (2004) *First Person: New Media as Story, Performance and Game*. Cambridge: MIT Press.

Wardrip-Fruin, N. & Harrigan, P. (2009) *Third Person: Authoring and Exploring Vast Narratives*. Cambridge: MIT Press.

Wardrip-Fruin N, & Harrigan, P. (2010) *Second Person: Role-Playing and Story in Games and Playable Media*. Cambridge: MIT Press.

Wither, J. Allen, R. Samanta, V. Hemanus, J. Tsai, Y.T. Azuma, R. Carter, W. Hinman, R. & Korah. T. (2010) 'The Westwood Experience: Connecting Story to Locations Via Mixed Reality' in *ISMAR 2012: Proceedings of the International Symposium on Mixed and Augmented Reality, Arts, Media and Humanities*, pp. 39-46.

RE-READING THE DIGITAL: AN INQUIRY THROUGH PRACTICE.

Penny Florence

> Friendship is [the] possibility of reading the other's messages. (Baldwin 2012).

Introduction

Digital reading is not the same as reading a book, for several reasons. The main focus of this short piece brings together two of them: varying and implicit but usually hidden technological relationship/s; and a new and more complex construction of the reading Subject/ivity. More of these in a moment – and they are mutually imbricated – but first some definitions and explanations to situate the work.

By 'eReading' I mean interpretive textual activity that requires the digital. That is, simply reading a book or a conventional poem on a screen does not constitute eReading. Examples of eReading are surfing, reading anything streamed or, as here, reading text that is being created as you read by an electronic Reader. None is possible without digital media.

The practices through which these thoughts arose are complex, but they all stem from an initial historical question: how new is e-poetry? That question can be re-phrased to be, what is the relation of e-poetry to the avant-garde of the 20th Century, including, visual poetry, caligrammes, Concrete poetry, Modernist painting that incorporates words (including, for example, Cubism and later art, such as the work of Rauschenberg or even pop artists such as Lichtenstein) and the comic book. Underlying these questions, for me, is less an issue of history as chronology or facticity, but history as shifts in Subjectivity and sociality.

The practices just referred to include making e-poetry, transposition between word and image and translation between languages – and re-thinking the impact of all of these on critique. The existence of all these options seem to require a kind of reading that crosses and re-crosses reading, critique, transposition/translation, and writing. But a key point is that it *is* reading. It is not just looking or watching.

I stress this because of the prominence of the following view:

> One feature of these [e-poetry] creations is that the texts that constitute it are initially perceived as images, animated metaphors or visual texts. The texts and documents become images, they no longer read, they are to be seen: their linguistic dimension has been subsumed under their iconic function.[1] (Gervais 2011).

The relation between word and image is clearly in play, but once the iconic takes over, it ceases to be poetry in any meaningful sense. It can be poetic, but not poetry.

Examples: e-Readers

The first image below is a screen shot of an e-Reader in action – or, rather, of two in action at the same time. The blue and the yellow words are each produced by a different e-Reader.

When you, as the human reader, open the app you see the base poems as they might appear on paper. You click on a number (here, from 1-4), and an e-Reader begins. It can be paused by clicking on 5-8. Varying actions can be started or paused by clicking on any of these numerical keys at any time.

You see the base text fade in and out in patches, and words in blue and yellow appear and disappear while the base text does not move. It is, however, modified by the movements across and through it.

have to select how much of this movement you want to follow, how deliberately, and for how long. The act of reading is brought to the fore.

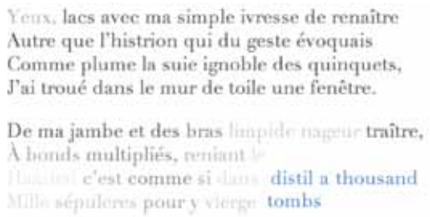
Even when a passive approach is taken, it has to be chosen; you have to make a choice between several ways of reading, one of which might be to un-focus your attention and allow meanings to emerge. In so doing, you alter the role of syntax. The question arises whether this is a new form of syntax. Where, as here, more than one language is involved, you also have to decide what kind of attention to give to translation.

In this example, the base text on the right is a fairly free, verse translation in English of the text on the left in French.[2] The words in blue and yellow have been programmed into the e-Reader, either with different translations or according to varying critical principles (*'critical'* in the sense of *'*pertaining to literary criticism or theory*'*). Some of these critical principles may involve transposing words from different poems, thus commenting on extrinsic movements within and between the base poems.

The following two images are screen shots of close-up details of the same e-Readers in action as the one above, showing different moments.

The screen shot above captures the words *'*the sudden sun*'* as they emerge from a single spot in the base text. The overlap this creates while in process disappears as the words move apart. The base text fades or darkens simultaneously. As you read, you

In the screen shot below, the blue text is generated by a second e-Reader, started by me as the human reader, and running at the same time as the yellow one above.



The fact that reading has always been technologised is brought to the fore by stopping and starting these Readers, while at the same time you are made more aware that reading has always been more social than it appears because there was always the question of authorship – was there an individual author of a given text, and if not, how did it come about?

To these questions are added others, such as how does it work? Who programmed it? What is the logic – or what are the logics? How far are they technical logics deriving from programming languages and operations? Is there a random element, and, if so, how does it operate, and to what effect? Even by arising, this questioning alters your relation to the text.

These effects can be quite subtle, and they may not always be equally conscious, nor indeed might they always be as prominent as they are at this historical moment. I would speculate that such effects might become only about as noticeable as the difference between poetry and prose. They won't disappear, nor will their reconstruction of you as the reading Subject. However, they will inflect how the act of reading a book is understood, because its cessation as the only way of reading, which is already in process, will have moved further forward.

Digital Reading and the "inextrinsic"

Digital, or eReading, both brings sociality to the fore, and reconfigures how reading in general has been understood. It inaugurates an *'*active associative animated dynamic reading-in-order-to-interpret*'*, which we have agreed to call *'*inextrinsic*'*.[3] This work concerns inextrinsic reading by means of electronic Readers. It is *'*inextrinsic*'* because it embodies a contradiction, or tension (*'*in-ex*'*); because it is about going deeper into poetic language than was possible before e-poetry (intrinsic); but also because it then moves to foreground associative, or metonymic, traces (extrinsic).

There is a simple example of a linguistic element related to the inextrinsic, which is feature of much e-poetry. Punning (or, technically, paronomasia). I would say that this is comparable to an inextrinsic figure because it works by taking the reader into a figure of language, the direction of which then goes outward – it moves in, then out. It is also useful as an example because it has a visual element that transposes to sound. Lastly, it's right on the edge of consciousness, which is perhaps the most important. Innovative language is necessarily oblique in terms of what is currently known. The joke work, like the dream work, is what enables perception of the unconscious or preconscious, or that in which reason or the Symbolic is embedded. Electronic, inextrinsic Readers work on this threshold.

Something very similar can occur in the practice of programming through 'type punning', though I have not gone into this as yet. As far as I understand it, type punning is where programming concepts are deliberately misused. Since this involves re-interpreting what a given type represents in terms of another type or types, sometimes including, for example, text-images (which make no sense in programming terms), it is directly analogous to punning in natural language. It is similarly subversive of stable meaning, and it similarly courts the absurd.

It is also the point at which we can begin to glimpse the ways in which the reading Subject is shifted from the individual towards the social. Inextrinsic reading implies an intervention in the imaginary. This is because the same dual movement that happens in language happens in the reading Subject: s/he becomes aware of themselves reading, while simultaneously having to be responsive to a technologised reading that is both impersonal and yet carrying an implicit human Subject or Subjects. The e-Reader is therefore a hybrid Subjectivity that constitutes the human reader in new ways. These ways cannot be accounted for in classical psychoanalytic terms.

New Subject, Old Left

Subject-formation, since Freud, has been understood as a complex of structures involving mirroring, visuality and language. Without getting into too many of the details, to privilege the visual over the verbal in poetic invention is to vitiate the potential of poetry to effect change. This is the level at which poetry is political because it is where poetry affects the Subject and its constitution in language.

This brings us again to what I stated previously – that inextrinsic reading implies an intervention in the construction of the Subject, or the relation of the Symbolic and the Imaginary. Let me very briefly indicate why. Poetry is event in the Mallarméen sense, which is close to, though not the same as, Badiou'smore recent, and to some extent possibly derivative, definition. What they have in common is the idea of the emergence of a truth that would otherwise not be discernible. For Mallarmé, this is an operation of poetic language alone. But Mallarmé, in my view, is no Platonist, while Badiou is. This isn't the place to argue it fully, but Mallarmé is the more radical in his understanding and deployment of the Subject in language. The Subject is always in process, and the truth is more dynamic because it's about relations. Mallarmé is also an atheist; Badiou's philosophy runs far too close to theology for this sometimes terrifyingly unstable, but highly inventive, universe. Badiou'sphilosophy has the great merit of being explicitly political. But it misses much that is in Mallarméen Subject (as does Rancière, but that is another story). The point, again, is how it constructs the imaginary.[4]

The reason this matters here is precisely at the level of this dynamic Subject. The processes of inextrinsic reading and transposition both bring the Subject into an uneasy place where innovation and change become possible. Think of the Kristevan eruption of the avant-garde into meaning, but transpose it into something more like the Deleuzian subject-in-process, and you come close. A big difference, however, is what I might call the structured dynamism of this process, and it is sexed-gendered, if you must.

(An aside – Many prominent male thinkers today are hampered by their lack of knowledge of recent philosophical writing by women. The reasons are many and varied, but the effect is similar and deeply unhelpful.)[5]

E-poetry deploys motion. That is one good reason why it is especially appropriate for the articulation and critique of a dynamic sense of language-in-process, or perhaps becoming-poetic, or again, becoming-truth. It is also why it is especially interesting in relation to translation. It is motion, a change in the temporality of language and an intervention into syntax, which in play with each other constitute the innovatory potential of e-poetry.

If the Subject is altered in this way, then so is collectivity. That is why these seeming-specialised matters have something to contribute to questions of the social. The same goes for what has hitherto been understood as 'the aesthetic'.

Both sociality and aesthetics have fairly recently – within the past 5 or 10 years, at most – come back into debates about media and art, but they have returned falteringly. They are mired in the thinking of the old Left, and vulnerable to the accusation that they simply reflect an uncritical nostalgia for some of the old 'certainties'.

Modernism was an idea built on revolutions. In remediating the social, we are not talking about revolutions, strictly speaking, though the effects may actually be more *'*revolutionary*'*. This is an evolutionary model rather than revolutionary ... in other words, there are always continuities. But evolution is characterised as much by shifts and extinctions as it is by long and gradual change.

These continuities are suppressed in the general narrative of modernism and efficiency, by which I mean in this context, adherence to a certain tight and undifferentiated analytic. In aesthetics, it manifests in the dominance of individualism and abstraction, of difficulty and of a contemporaneity that only an élite can interpret.

In brief and provisional conclusion

It keeps coming back to the construction of the Subject as an individual, and often as the One-Who-Knows. Ideas of ebb and flow, of process and networks (rather than separateness), have been around for some time. But they have not fully replaced the outmoded individual Subject. This is partly because radical thought has been in the past so heavily invested in oppositional discourse that it finds it very hard to give up what it understands as revolutionary fervour.

This is inimical to connected sociality. The maturation of born digital thinkers should go a long way to ushering in the new evolutionary shifts that have been under way, I would argue, since about the mid 1800s. But it is only since the mid 1900s, and the spread of the digital, that it has had the media its logic necessitated – and made inevitable.

Notes

1. Gervais is right that they are often perceived in this way, but clearly I dissent from the view that the linguistic is subsumed to the iconic.
2. The poem is *Le pitre châtié* by Stéphane Mallarmé, published in 1884, written in the 1860s. As the author of *Un coup de dés jamais n'abolira le hazard*, widely cited as the seminal text of avant-garde poetics, Mallarmé's work is especially relevant to e-poetry. See also Florence 2000.
3. 'We' here refers to my primary collaborator, John Cayley, and myself. The e-Readers we are working with were devised and built by John Cayley, based on his collaborative *Readers Project* (thereadersproject.org) with Daniel C. Howe. They can be programmed to perform different operations according to poetic or critical principles, which is where my primary interests lie.
4. I mention Badiou and Rancière because of their prominence in recent discussions related to this paper, and also to my work on sexed universals. (Florence 2004)
5. Elizabeth Grosz (eg 2008), Kelly Oliver (eg 2004), and many digital theorists, whose work should be more widely referenced, just for a start. I am not saying the work is not known. I am saying it has wider resonance.

References

Badiou, A. (1997) *St Paul: The Foundation of Universalism*. Stanford: Stanford UP.

Baldwin, S. (2012) Unpublished presentation. *Electronic Literature Organization (ELO)* conference, June 20-24 2012.

Florence, P. (2000) *Un coup de dés jamais n'abolira le hasard by Stéphane Mallarmé on CD-Rom*, edited, translated and introduced by PF. Interactive CD and essays 75 pp. Concept and Design by PF, programming and design by Jason Whittaker. With accompanying essays by Florence, one with Whittaker. Oxford: Legenda.

Florence, P. (2004) *Sexed Universals in Contemporary Art*. New York: Allworth Press/School of Visual Arts.

Gervais, B. (2011) Unpublished blurb for the session *Digital Aesthetics* IAWIS/AERTI (International Association of Word-Image Studies) conference. Montréal.

Grosz, E. (2008) *Chaos, Territory, Art. Deleuze and the Framing of the Earth*. New York: Columbia.

Oliver, K. (2004) *The Colonization of Psychic Space : A Psychoanalytic Social Theory Of Oppression*. Minneapolis: University of Minnesota Press.

Rancière, J. (1996) *Mallarmé: La Politique de la Sirène*. Paris: Hachette.

RE:MIX

PARALIPOMENA: (DRAFT OF NOTES STRIPPED BARE, EVEN . . .) [IPHONE VERSION 2.0]

Mark Amerika

What does it mean to program desire in a robotic world that strains to create?

These interstitial rubbings, these moments of textual frottage, why is it all stimulating me?

Writing is the flesh I just can't keep my hands off of.

It's driving me wild, again, always, and I really can't stop myself.

I just want to touch it – to lick its outer edge and slowly, if it will let me, go in deep.

To take hold of the machine and make it come.

To turn it on (explicitly).

A profusion of uncensored scratch marks that tell the tale.

A pungent rain of text discharged from the invisible cloud.

An Unexpurgated and Voluminous Zip File Ready for Immediate Download.

But I'm not even here, so how can I dis-re-member this prodding packet of transmitting desires?

Was I here?

I haven't even left and I already forgot how I was when I appeared.

It's like that.

It's like remediating the social – remediating the social *medium* – in asynchronous realtime.

The asynchronous social medium persevering through atemporal times.

The asynchronous social medium that becomes transmission itself.

That becomes the appearance of an apparition.

Duchamp – in his *Green Box* – writes:

A Guest + A Host = A Ghost

These remediated social bodies are starting to rub off on me, and something, it's hard to say exactly what, is leaving its feint imprint.

Is making an appearance.

An allegorical appearance.

An apparition of an appearance.

This is where **you, Desire,** come in.

An email, a website, a text message, a tweet.

Desire is the desire for an Other.

I myself do not exist (cannot exist, and this the thing I like most about me).

Desire: the asynchronous social medium that *becomes* transmission itself.

Desire asks: 'What does it feel like to submit?'

'To submit to the machine that triggers yet more desire?'

Why the desire to submit?

So that one can then make an appearance.

One submits, and waits, and then, by fluke of imagination, if intuition is optimally programmed into the environment, another ghost transmission arrives in response to the submission.

It's an acknowledgment of receipt followed a short time later by a message of acceptance.

Your submission has been accepted.

You, Desire, Have Been Accepted.

I, meanwhile, am always (an)other.

Welcome to the Remediated Social Machine.

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Annie Abrahams has a doctorate in biology from the University of Utrecht and a BA from the Academy of Fine Arts of Arnhem. In her work, using video, performance as well as the internet, she questions the possibilities and the limits of communication and investigates its modes under networked conditions. She is an internationally regarded pioneer of networked performance art. She has performed and shown work extensively in France, including at the Centre Pompidou Paris, the CRAC LR Sète, in many international galleries including the Black Mountain College Museum + Arts Center, Furtherfield gallery London and NIMk Amsterdam. Extensive biography and cv: http://bram.org/info/aa.htm

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Romy Achituv is an experimental interdisciplinary artist whose work engages issues of representation, language, time, and memory. Underlying his practice is an ongoing interest in the language of visual representation and the dynamics of spectatorship and interaction. In recent years his projects have explored physical applications of digitally inspired paradigms and the light that such cross-disciplinary mappings shed on the relationship between culture and the technology it engenders. Romy Achituv lives and works in Israel, the US and in Seoul, South Korea, where he is currently a WCU Professor of New Media at HongIk University.

MARK AMERIKA

Mark Amerika's work has been exhibited at the Whitney Biennial of American Art, the Denver Art Museum, the Institute of Contemporary Arts in London, and the National Museum of Contemporary Art in Athens, Greece. He is the author of many books including *remixthebook* (University of Minnesota Press, 2011 – remixthebook.com) and *META/DATA: A Digital Poetics* (The MIT Press, 2007). Amerika is a Professor of Art and Art History at the University of Colorado and Principal Research Fellow in the Faculty of Humanities and Social Science at La Trobe University, Melbourne. More information can found at his website: markamerika.com

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Philippe Bootz (born May 1,1957) is a senior lecturer at University Paris8. He is responsible for the Computing Writing group at the Laboratory Paragraphe and is co-publisher of the Computing Literature book series at the West Virginia University Press. He has been working with programmed literature since 1978 and is a founder member of the French group L.A.I.R.E (1988) and the International group Transitoire Observable (2003). He is publisher of the review *alire* (since 1989). His works in digital poetry are published in: review *bleuOrange*, *texto digital*, *Doc(k)s online, alire* and in the anthologies: *Digital Literature Collection nb1, Media Poetry, ALW* and have been shown in numerous exhibitions around the world.

MEZ BREEZE

'Mez does for code poetry as jodi and Vuk Cosic have done for ASCII Art: turning a great, but naively executed concept into something brilliant, paving the ground for a whole generation of digital artists' (Florian Cramer). The impact of her unique code works – constructed via her pioneering net-language 'mezangelle' – has been likened to that of Shakespeare, James Joyce, Emily Dickinson, and Larry Wall. Mez has exhibited extensively since the early 1990's. Awards include the 2001 JavaMuseum Artist Of The Year, 2002 Newcastle New Media Poetry Prize and the Burton Wonderland Gallery Winner 2010 (judged by Tim Burton). Mez is also a Technology and Culture Journalist, Futurist and Game Theorist.
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Mimi Cabell was born in Nanaimo, BC, Canada. She earned her BFA in photography from Ryerson University in Toronto, CA, and her MFA in photography from the Rhode Island School of Design in Providence, RI. She is currently enrolled in the Electronic Writing MFA Program at Brown University where she is working with images, text and sound. Her work was recently exhibited at Pixilerations v.8 in Providence, RI, and has also been shown in New York and Toronto.

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Ruth Catlow and Marc Garrett (UK) are artists, writers and curators. They are co-founders of Furtherfield, an online community for art, technology and social change since 1997; now also a public gallery in the heart of Finsbury Park, London. Their collaborative, intermedia artworks and projects are exhibited and hosted in international venues and include *VisitorsStudio* (awarded the Grand Netart Prize in 2009), *WeWontFlyForArt* (2009) and *Zero Dollar Laptop* (2010-ongoing). They are co-editors of *Artists Re:Thinking Games* (2010) and curators of *Collaboration and Freedom – The World of Free and Open Source Art* (2011), a collection for Arts Council England and P2P Foundation. http://furtherfield.org

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John Cayley writes digital media, particularly in the domain of poetry and poetics. Recent projects include the *Readers Project*, with Daniel Howe, *imposition*, with Giles Perring, *riverIsland* and *what we will*. He is Professor of Literary Arts at Brown University. He is obsessed, agonistically, by *Writing to be Found* with/against linguistically implicated network services.
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CRIS CHEEK

Cris Cheek is a British scholar-poet, mixed-media practitioner and performance writer. Born in London, he lived and worked there until the early 1990s, critically embroiled in praxis in that capital city. His explored boundaries between poetry and song between 1984-98 with composer Sianed Jones, often in collaboration with turntablist and sound artist Phillip Jeck. Between 1999 and 2007 he worked with artist Kirsten Lavers on diverse live writing projects under the 'author function' *Things Not Worth Keeping. Part: Short Life Housing* (2009, Toronto: The Gig) is his most recent publication. He is Associate Professor of Creative Writing at Miami University in Ohio.

CECILE CHEVALIER

Cécile Chevalier is a PhD student in Creative & Critical Practice at the University of Sussex. Her research focuses on digital media and memory – Remembering to remember: a practice-based study in digital re-appropriation and bodily perception. Her work seeks to reconsider the ways in which societies choose to remember, as personal or collective collections become digital, while asking how digital technologies can be used to re-remember. Prior to her PhD study, Cécile completed a BA (Hons) in Crafts and Design and a Masters Degree in Fine Art at the University of Brighton, while exhibiting photographs, video-art and installation work.

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Elena Cooper is Orton Fellow in Intellectual Property Law at Trinity Hall, Cambridge and is currently a researcher at the Faculty of Law on the 'Of Authorship and Originality' project, funded by Humanities in the European Research Area. After graduating in 1999 with a law degree from the London School of Economics and a Master's degree in Intellectual Property Law from King's College London, Elena worked for a City of London law firm for five years, specialising in Intellectual Property litigation. Following this, in 2006, she moved to the University of Cambridge, where she completed a PhD on the relationship between art and law in the history of photographic copyright 1850-1911, under the supervision of Professor Lionel Bently. Her PhD thesis was awarded a Yorke Prize. She has been a Fellow at Trinity Hall since 2009.

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James Leach is Professor of Anthropology at the University of Aberdeen, Scotland. He has undertaken field research in Madang Province, Papua New Guinea and published books and articles on the land-person-creativity relation there (Creative Land 2003), the ownership of land and knowledge (Rationales of Ownership 2004, edited with Lawrence Kalinoe), and Madang people's use of plants (Reite Plants 2010, with Porer Nombo). He has also undertaken field research in the United Kingdom and Europe with Free Software communities and with several artists and arts organizations as they collaborate with scientists, resulting in articles on creativity, technology, collaboration, and knowledge exchange

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Nick Montfort is Associate Professor of Digital Media at MIT and president of the Electronic Literature Organization. He develops text generators and interactive fiction and has participated in dozens of literary and academic collaborations. Montfort co-edited *The New Media Reader and The Electronic Literature Collection* Volume 1 and wrote *Twisty Little Passages: An Approach to Interactive Fiction, Racing the Beam: The Atari Video Computer System* (with Ian Bogost), and *Riddle & Bind.* His book *10 PRINT CHR$(205.5+RND(1)); : GOTO 10* is a collaboration with nine other authors about a one-line Commodore 64 BASIC program.

JUDD MORRISSEY & MARK JEFFREY

Judd Morrissey and Mark Jeffery are a collaboration merging digital literary practices and live performance. The work, which is visual, textual and choreographic, evolves through context-specific research and practice and considers the constraints of a given site or time. Site-responsive concerns extend beyond the exhibition space to include local histories, communities and geo-specific data feeds. Each project is a body of material that may have no singular fixed form but is alternately or simultaneously presented as large-scale public projection, internet art, durational live installation or a performance of fixed length. http://www.judisdaid.com and http://www.markjefferyartist.org/.

JASON NELSON

Born from the Oklahoma flatlands of farmers and thunderstorms, Jason builds digital poems, art games and curious digital creatures. He professes Net Art/Electronic Literature at Australia's Griffith University. Aside from coaxing his students into playing with all manner of technologies, he exhibits widely in galleries and journals, with work around the globe: *FILE, ACM, LEA, ISEA, SIGGRAPH* and other acronyms. There are awards (Paris Biennale Media Poetry Prize), organizational boards (Australia Council Literature Board and the ELO), and other accolades (Webby Award), but Jason is most proud of the millions of visitors his artwork/digital poetry portal attracts each year. http://www.secrettechnology.com

SCOTT RETTBERG

Scott Rettberg (b.1970) is Associate Professor of Digital Culture in the Department of Linguistic, Literary, and Aesthetic studies at the University of Bergen, Norway. Rettberg is project leader of ELMCIP (Electronic Literature as a Model of Creativity and Innovation in Practice), a HERA-funded collaborative research project that runs from June 2010-June 2013. Rettberg led the establishment of the Nordic Digital Culture Network, a Nordplus network, in 2008, and led the project through 2010. Prior to moving to Norway in 2006, Rettberg directed the new media studies track of the literature program at Richard Stockton College in New Jersey. Rettberg is the author or co-author of novel-length works of electronic literature including *The Unknown, Kind of Blue, Implementation* and others. His creative work has been exhibited both online and at art venues, including the Beall Center, the Slought Foundation, The Krannert Art Museum and elsewhere. Rettberg is the co-founder and served as the first executive director of the non-profit Electronic Literature Organization, where he directed major projects funded by the Ford Foundation and the Rockefeller Foundation.

ALEXANDRA SAEMMER

Dr. Alexandra Saemmer is Associate Professor of Information and Communication Sciences at University Paris 8. Her current research projects focus on semiotics and the aesthetics of digital media, reading and writing in digital environments. She is the author and editor of several books and articles on digital literature and arts.

ROBERTO SIMANOWSKI

Roberto Simanowski was a research fellow at Harvard University and Professor for German Studies at Brown University. Since 2010 he is Professor for Media Studies at the University of Basel. Simanowski has authored a book on mass-culture around 1800 and four books on digital arts and online culture. Among his publications in English are *Reading Moving Letters: Digital Literature in Research and Teaching. A Handbook* (co-edited, Transcript 2010); *Digital Art and Meaning: Reading Kinetic Poetry, Text Machines, Mapping Art, and Interactive Installations* (UP Minnesota 2011). He is the founder and editor of the journal on digital culture and aesthetics dichtung-digital.org and editor of three books on digital literature.

YVONNE SPIELMAN

Yvonne Spielmann (Ph.D., Dr. habil.) is presently Research Professor and Chair of New Media at The University of the West of Scotland. Her work focuses on interrelationships between media and culture, technology, art, science and communication and, in particular, on Western/European and non-Western/South-East Asian interaction. Milestones of published research output include four-authored monographs and some 90 single authored articles. Her book, *Video, the Reflexive Medium* (published by MIT Press 2008, Japanese edition by Sangen-sha Press 2011) was awarded the 2009 Lewis Mumford Award for Outstanding Scholarship in the Ecology of Technics. Her most recent book *Hybrid Culture* was published in German by Suhrkamp Press in 2010, English edition from MIT Press in 2012. Spielmann's work has been published in German and English and has been translated into French, Polish, Croatian, Swedish, Japanese, and Korean. She holds the 2011 Swedish Prize for Swedish-German scientific co-operation.

JANEZ STREHOVEC

Janez Strehovec received his Ph.D. in Philosophy (Aesthetics) from the University of Ljubljana, Slovenia in 1988. Since 1993 he has been working as Principal Investigator on several research projects on cyberarts, e-literature and the Internet culture. He is the author of seven scientific monographs in the fields of cultural studies, digital literature and aesthetics published in Slovenia. His most recent essays are included as book chapters in *Reading Moving Letters* (2010, ed. by R. Simanowski et al.), *Regards Croisses* (ed. by Ph. Bootz and Ch. Baldwin), and *Phenomenology and Media* (ed. by P. Majkut and A.J.L. Carrillo Canan). Currently, he is undertaking research as a Principal Investigator of the ELMCIP project. He considers e-literature as embedded in the Post-Fordistic world of prosumption and algorithmic culture, in which the literary object gives way to the e-literary service and performance.

BEAT SUTER

Beat Suter is an author, publisher of edition Cyberfiction and a Lecturer in gamedesign at Zurich University of the Arts. With René Bauer and Beat Suter he is a founding member of the artist group AND-OR. They have developed more than 20 projects with AND-OR since 2001. In 2006 *AND-OR's work Streamfishing* received an award from the Ars Electronica. In four of their projects they have also collaborated with Johannes Auer.

ANGELA THOMAS

Dr. Angela Thomas is a Senior Lecturer in English Education at the University of Tasmania. She is the co-author of *Children's Literature and Computer Based Teaching*, and author of *Youth Online: Identity and Literacy in the Digital Age*. Angela's research focuses on the fusion of literature and digital media. Of particular note is her study and development of new media spaces for the deep and immersive exploration of literature. She is currently working on a research project focusing on young children's creative Augmented Reality storytelling.

PENNY TRAVLOU

Dr Penny Travlou is a Lecturer in Cultural Geography & Theory at the Edinburgh School of Architecture & Landscape Architecture, University of Edinburgh. Her research is interdisciplinary, focusing on the politics of public space, inclusive outdoor environments, urban theory, visual & digital culture and ethnography. She is Co-Investigator on the EU-funded (HERA JRP) project, Electronic Literature as a Model of Creativity and Innovation in Practice (ELMCIP) where she is looking at how creative networked communities form within transnational and transcultural contexts in a globalised and distributed communications environment (www. elmcip.net). She is also Principal Investigator on the UK Arts and Humanities Research Council funded project Creation and Publication of the Digital Manual: authority, authorship and voice.
http://sites.ace.ed.ac.uk/digital-manual/

CLEMENT VALLA

Clement Valla received a BA in architecture from Columbia University in 2001. After working for architects in the USA, France, and China, Valla began using computers and digital technologies in his own art. He received an MFA from the Rhode Island School of Design in Digital+Media. He has collaborated with a number of artists, architects, designers, scientists and archaeologists, developing novel uses for digital technologies. His own artwork has been shown internationally and written about in publications such as the *Huffington Post, Wired, the Guardian* and *Libération*. He currently teaches at the Rhode Island School of Design.

CHRISTINE WILKS & CHRIS JOSEPH & RANDY ADAMS

R3/\/\1X\/\0RX (remixworx) is an international online collaboration of creative practitioners engaged in remixing digital media art and writing. Selected works are exhibited at http://www.runran.net/remixworx. Most recent works first appear in the group blog at http://www.runran.net/remix_runran, along with a full archive stretching back to November 2006. Many artists and writers working in digital media have contributed to R3/\/\1X\/\0RX over the years, but the most prolific remixers continue to be Randy Adams (aka runran, runran.net), Chris Joseph (aka babel, chris-joseph.org) and Christine Wilks (aka crissxross, crissxross.net).

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